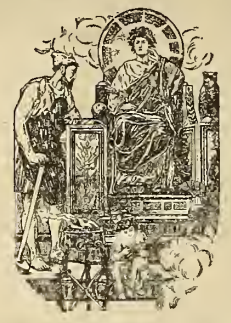
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THE

AMERICAN SOAP JOURNAL
AND
MANUFACTURING CHEMIST.

Entered at P. O. at Milwaukee, Wis., as Second-Class Matter, Oct. 2, 1900.—Published Monthly.

Vol. XIII. Milwaukee, Wis., September 1, 1902. No. 1.

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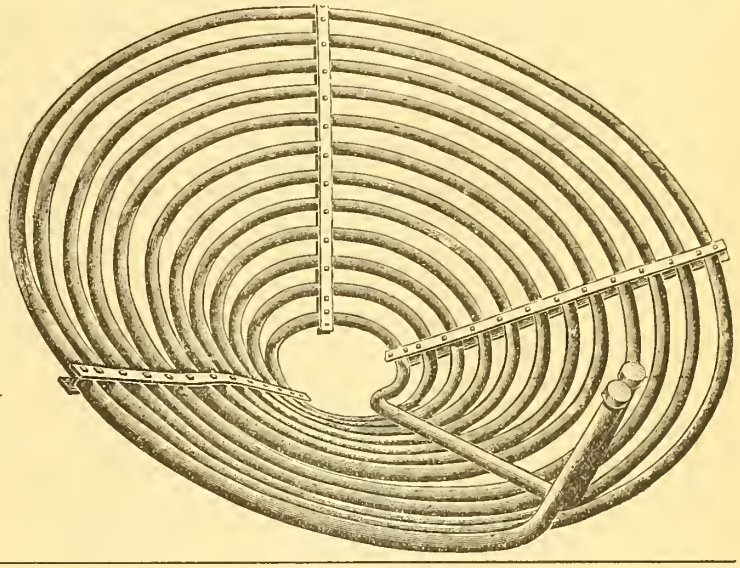
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MILWAUKEE, WIS., September 1, 1902.

VOL. XIII. No. 1.

THE

AMERICAN SOAP JOURNAL

AND

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Some months ago, under the heading "Counting the Cost," we printed a translation of a whimsical little article from the *Seifenfabrikant* on how (not) to figure the cost of soap. One of our American subscribers, who evidently felt like laughing at it if it were not so sad, refers to it in these words: "I cannot understand why this list of cost items should not be left to your competitor. The care with which each item receives due attention is very commendable, but since it is now only necessary to find out through large buyers and your own salesmen exactly what to charge for your goods in order to do just a little better than your competitor, it is quite a comfort to be relieved of the worry over so many items."

This is only another illustration of Yankee ingenuity vs. German thoroughness.

We referred last month to the attempt of forming a soap-making syndicate, stating that it was said to be backed by the Manhattan Trust Co. This statement has since been confirmed and the law firm of Evarts, Choate & Beaman of New York have issued the circular invitations to join the undertaking.

While it is claimed that some firms "look with favor" on such a move, the prevailing opinion seems to be that—if the soap firms ever come together at all—it will be done by the spontaneous action of firms in the business, and not by outside promoters.

If the improvements and enlargements undertaken by several prospering factories are a safe guide, they have no idea of joining themselves to any combination whatever.

If, according to the census of 1900, the actual capital invested in the soap manufacturing industry in this country is thirty-eight million dollars, and if we add thereto the capital of the factories which the census failed to take in, or which entered the business since 1900, and if we then add the increased estimate placed on the valuation as soon as it becomes a question of joining a "syndicate," and if we finally add the value of the good will and trade-marks owned by the different manufacturers, we would arrive at a total that would make the $10,000,000, on the subscription of which the proposed American Soap Company Syndicate means to start organizing, look rather small indeed.

We should say, in fact, they would look like the pro-

verbial "three cents," were it not for the warm personal regard in which we hold even $10,000,000.

It furthermore strikes us as rather "naive" when the invitation to join the "syndicate" says that it is proposed to have "closely allied" with this company one or more of the largest manufacturers of packing house products, thus giving the new company the benefits of the best possible price on raw material.

We can think of no packer just now who would want to "closely ally" himself with a syndicate of his customers for the sake of selling to it his products at lower prices than he could obtain by staying out of it.

We are in receipt of a report that the other day a soap-maker in a town south of here suddenly jumped into a kettle of boiling soap. "He was last seen," the report says, "waving a copy of the AMERICAN SOAP JOURNAL and then he disappeared from the view of our horror-stricken eyes."

We have a suspicion that, if we ask for further details, we shall be informed that on emptying the kettle the unfortunate "nigger" was found at the bottom of it. But we are not asking any questions.

It is always an unpleasant piece of work to report a mere rumor, and they are only too plentiful of late. It is likewise unsatisfactory to follow up mere rumors by denials (which are often true and sometimes otherwise).

From present indications it will be the fall style to have some sort of rumor connected with your business if you belong to the upper 400 among the soap factories, and it will be for you to consider whether your denial shall be cut "on the bias" or not, and where to put the ruffles.

Moral: We are willing to deny everything ourselves, so long as we do not have to deny ourselves anything.

When, during the course of the month, we receive the reports and rumors of firms buying each other out, consolidating, associations meeting, trusts trying to arise, new firms organizing, etc., and when we are engaged in writing such news out for these columns, and destroying again some of the items already written, because they are later contradicted, we have come to doubt of late whether our work is mostly editorial or not rather a species of "scene shifting."

Yes, "Talc is cheap," but it "won't wash."

The olive growers of California complain of suffering from overproduction and some of them are even reported as uprooting their trees. What a strange contrast, at present tallow prices, between palm oil coming thousands of miles from foreign shores to the relief of the soap manufacturer, and olive oil produced in this country, unable to pay its way and yet unattainable for making the best soap known.

Only last month we commented on the decay of the potash industry in this country, and now a press dispatch from Berlin says: "The potash industry is undergoing a crisis due to overproduction. The Prussian Treasury mines have discharged hundreds of workmen and have reduced the wages of others from 10 to 30 per cent. All private mines and factories took similar steps. It is explained that the industry was not affected by the depression in German business till the end of April, when all factory warehouses were stocked to the roofs."

When Welcome A. Smith first saw the light of day he must have been welcome indeed, to be given such a name. But when in later years he, on the strength of that name, made use on a soap wrapper of the word Welcome in his name, thereby approaching the soap brand Welcome already on the market, he was not welcome at all. For further particulars see another page.

The price of eggs, in most parts of the country, is quoted at so much per dozen; in some other parts the quotation is reversed and a silver quarter is the standard measure in retail dealings, for which sum a certain number of eggs are obtained, which number fluctuates with the market. Since the size of eggs varies considerably, the proper way to sell them would really be not by number but by weight, as meat is sold; but we are not aware of that method being anywhere in use in this country.

Applying these observations to the article of soap, we may note several things: For one thing, it seems incongruous that a grocer who sells a dozen small eggs at the same price that he sells a dozen large eggs for, should take such an intense interest in seeing the size of the soap cake maintained uniformly, whatever the price of tallow, etc., may be. True, soap-makers may be persuaded to cut cakes of soap to a certain size, while chickens are not open to argument on the size of the eggs they shall lay. But if the public is satisfied to buy eggs by numbers, regardless of size, when there *is* a remedy for it at hand, why should not the same hold good in the case of soap?

Again, if a certain cake of soap has been sold all along for 5 cents retail, and the price of raw materials is such as to allow no reasonable margin at this price to manufacturer, jobber and dealer, the next thing to do would be to raise the price to 6 cents per cake—a sudden rise of 20 per cent. If, instead, the size of the cake were

reduced, this could be done by 5 per cent., 10 per cent., 15 per cent., or any per cent. at all, and so this reduction might be made more to the advantage of the consumer than raising the price of each cake of customary size. The public has always had the advantage of the difficulty which manufacturers labor under in the matter of price, and *if* a reduced size of the cake were the only feasible remedy in a given case, we see no valid reason against its adoption.

To call such a reduction dishonest is, it would seem to us, a far-fetched idea. Not only that it cannot be dishonest to make any practical arrangement to make a reasonable profit from soap-making, but there is, a better reason for the point of view we are now taking. We refer to the question of filling. Every reader is aware that (himself and two or three others excepted) soap manufacturers are using fillers of various kinds more or less liberally. These fillers bring an otherwise smaller cake of soap up to a fictitious size, and scarcely ever is a word lost about the question of honesty. Is it not, after all, more honest, to sell a small cake (which the buyer can weigh readily) than to give it an artificial size by inferior admixtures which the consumers cannot detect?

There are two sides to everything, and we merely write the foregoing to get a glimpse of the "other" side.

Frank G. Carpenter, the well and widely known newspaper correspondent, is making a tour around the Philippines, Java, Korea, Japan and adjoining countries, and has written for the *National Laundry Journal* an account of laundering in these several countries. The prevailing method of rubbing the clothes against the stones lying in the rivers, or pounding them in one way or other in open water, has been described before, but the following paragraph catches our attention:

"One of the great dangers of the present method of washing is the communication of disease and especially the dobe itch. This plague has attacked nearly every American woman, and man, soldier and civilian, who has visited the Philippines. It is supposed to be caused by microbes which infest the waters of the streams and attach themselves to the garments when washed and from them go to the bodies of the wearers. Once caught, the disease spreads itself rapidly over the body, doing the greatest damage between the toes, at the arm pits and wherever perspiration is greatest. It is a sort of itch which can be easily cured by washing the body with listerine, but it is disagreeable and painful, and if not soon attended to will land one in the hospital. I escaped it during my stay in the Philippines, although I was in terror for some time after every change of my linens."

If the great antiseptic value of soap, in the laundry as well as for toilet purposes, were better understood, the primitive method of washing and the dobe itch would soon disappear and so would a lot of soap. But the clothes would not disappear so rapidly (unless the American steam laundry came along with the introduction of soap).

P. S. Our esteemed contemporary, the *National Laundry Journal,* will please not read the last sentence.

In the history of the "rise" of adulteration of any article it has ever been true that first a crude adulteration was undertaken; then simple tests for exposing it were devised; then the adulterator has found means to circumvent these tests; then new and more delicate tests had to be discovered, and so forth and so on. It is like the new armor-plate designed to withstand any shot, and then the new gun to destroy that plate. The best examples of this kind have probably been furnished by the e aitnessliol.bcfit w-,-f c , (h cmfw cmfwy cmfwm the essential oil business. but it is well to bear the same possibilities in mind in connection with the *fatty* oils and fats.

Now that the recent fraudulent tallows have become so conspicuous, the thought suggests itself whether we really know all that is to be known about these adulterations. Do the ordinary tests for mineral oil in tallow tell us the complete truth? Or has the adulterator found ways of mixing mineral oil with tallow in a way that the usual tests will not disclose its presence?

This is not simply an idle question, for as straws show how the wind blows, so little ear-marks make us suspicious that the recent examinations of adulterated tallows have not always brought out the full truth. Different examiners have reached different results when testing the same sample, and how, in view of the long and well-known tests, are we to explain that fact except on the supposition that the samples are something else than just old-fashioned mixtures of tallow and mineral oil—mixtures, moreover, especially designed to circumvent the standard tests for adulteration until now in vogue?

Furthermore, there are so many allusions made of late to the saponification of petroleum, to something mysteriously new in the use of mineral oil, to new kinds of soap containing mineral oil acting unlike mere mechanical mixtures, that even in taking all these statements with a pinch or two of salt, we cannot help feeling that back of it all there must be *something* at least, whatever it is.

There is said to be on the market a soap compound containing considerable mineral oil and which dissolves very readily in naphtha, benzine, petroleum ether, etc. The fact that this compound dissolves readily in benzine would point to the absence of soap, and yet the presence of soap in it can be demonstrated by other tests. There is, then, something which interferes markedly with many of the usual tests employed, and if this or a similar compound were used to adulterate tallow, the fraud

—or at least the full extent of it—might not be revealed by the usually employed tests.

This is all we are warranted in saying on the strength of information at hand. We may have more to say on the subject later.

The possible separation of the nigre from soap by centrifugal force was mentioned in this paper almost a year ago. In the days of wireless telegraphy nothing seems unlikely nor impossible, but we have not heard anything further about it until a few days ago, when we had an enquiry as to whether the process had become an accomplished fact.

We do not know that it has, but mention it once more for the good it may do. Perhaps someone will yet take advantage of the suggestion.

The island of Mitylene (Turkey) has had a number of soap factories laid idle by the prohibition against the exportation of adulterated soaps, and the exports have fallen off from 88,000 bags of soap in 1900, to 59,000 bags in 1901. The factories are of course incensed at this interference, the more so since the consuming markets are not debarred from making their own adulterated soap.

On the other hand, the importation of adulterated soap is also prohibited.

Last month we had occasion to refer to the marvelous growth of the alkali industry in this country. Similarly the progress in the salt industry is quite remarkable. In 1880 there were produced less than six million barrels (280 lbs. each) and this rose in 1901 to 20,566,661 barrels, valued at $6,617,449.

The chief states furnishing this product are Michigan and New York, which produce annually 7 to 8 million barrels each; next comes Kansas with 2 million barrels, and then Ohio with 1 million. Utah and California furnish the small remaining amount.

In 1880 we imported 3,427,639 barrels, but in 1901 this had decreased to 1,440,950 barrels.

It has been said that American humor consists largely in the ludicrous exaggeration of things. Probably the New York Tribune was in excellent "humor" the other day, for it mentions the skimming off of the Chicago river at a place where the waste from the stock yards empties, and reports it as "selling the Chicago river by the bucketful to packers at the stockyards, to be transformed into soap." Whether that is humor or not we hardly know, but an undoubted specimen of the same article comes from Hartford, Conn., where a factory had been charged with being a public nuisance on account of the odor it is giving off. At the trial one of those interested in the prosecution produced a photograph showing vapors surrounding the factory and seriously offered it as a "photograph of the odor from the factory."

Photographing of colors has been a long time the subject of experiment, but this is probably the first attempt at photographing an odor.

The State of Minnesota has a plan for raising its own cattle and doing its own slaughtering in order to obtain supplies for its several state institutions, such as hospitals, prisons, etc. For a considerable time past soap has been made at the Rochester (Minn.) State Hospital, not only for that but for other state institutions as well. So, also, is there a soap-making outfit going in the Kankakee (Ill.) Insane Asylum.

Company-promoters are said to find a rich field in India. Among other propositions we read that Messrs. Guhd & Co., of Mymensingh, Bengal, have issued a prospectus, in which they say: "We require a capital of 25,000 rupees at the lowest, and this we propose to raise by 2,500 shares of 10 rupees each. The place where the soap manufactory is to be started, and other articles of the business, are to be determined by the opinion of the majority of the shareholders in the joint stock system."

The delightful indifference as to where the factory is to be established, provided only that at least 25,000 rupees are collected for it, would do honor to some American trust promoters.

Present tariff rates in force in Cuba and their proposed increase compare as follows:

Stearin, per 100 kilograms, present rate $5, increase, 50 per cent.; common soap, per 100 kilograms, present rate $3, increase 150 per cent.; lard, 100 kilograms, $2.80, increase 100 per cent.; olive oil, 100 kilograms, at present $3, increase 100 per cent.

At that rate washing will probably become a lost art in Cuba.

On Waste Products.

NEW YORK, N. Y., Aug. 16.

Editor American Soap Journal:

Dear Sir—Your mention in the August number of the amount of fat in a human body reminds me of a story told about a Russian chemist whose wife died. Desiring to have a touching memento of her, he incinerated her remains, dissolved the ash and extracted the iron from it. This he melted and cast into a ring, which he wore on his little finger. It was insinuated (ironically?) that it was the first time he had ever had her under his thumb. Yours truly,

PETER T. AUSTEN.

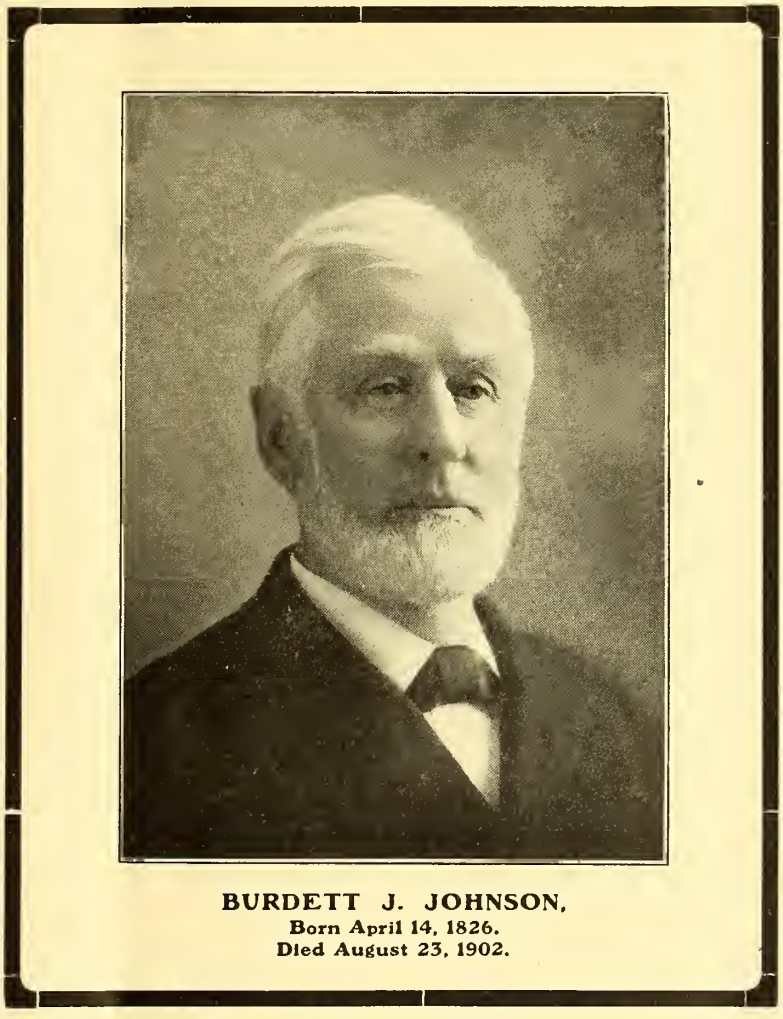
Burdett J. Johnson.

With sincere regret we have to announce the death of Burdett J. Johnson, president of the B. J. Johnson Soap Co., of this city, who passed away at his home in this city on August 23, at the age of 76, after a comparatively brief illness.

Mr. Johnson was born in Ellicottville, N. Y., on April 14, 1826 and after attending public school near the old homestead, completed his education at the Springville (N. Y.) academy. He then engaged in business, making numerous trips by the only means of transportation then available—the horse and wagon—to the Western reserve in Ohio. Subsequently he formed a partnership with D. C. Baird in the grocery business in Buffalo, and in 1864, though quite successful in business in the East, he, together with Geo. C. Baird, a son of his Buffalo partner, came to Milwaukee.

Here they at first engaged in the grocery line again, but in 1867 they bought out the soap business of Plankinton & Armour and in the soap making business Mr. Johnson has ever since remained and has been so conspicuously successful, that the company which grew out of the firm and of which he was president, is one favorably known throughout the trade.

In the early days of his soap making enterprise in Milwaukee there were no box factories in the West and, though Wisconsin was then a great lumber state, soap boxes had to be obtained from the East. As a result Mr. Johnson established his own box factory, which is said to have been the first in the West.



BURDETT J. JOHNSON,
Born April 14, 1826.
Died August 23, 1902.

The deceased was noted for his executive ability and energy as well as for an upright character and integrity in both private and business life. He was one of the most pleasant men to meet personally, and withal a strong character and churchman. The trade lost one of its most widely esteemed members. His wife, two sons and two daughters survive.

The sons, Caleb E. and William B. Johnson, were engaged in the business with their father.

Is Soap-Making A Paying Business?

BUFFALO, N. Y., Aug. 16, 1902.

Editor American Soap Journal:

Dear Sir—At present prices of stocks, of tallow, oils, rosin, etc., a good, sound and serviceable soap can be made at a cost of about 2½ cents per pound, without addition of talc, silex, pumice stone and other villainous additions, but purely filled with dissolving materials of *a washing character.*

Talc, silex, pumice, etc., simply fill up, *but do not wash* and *are detected at bottom of washtub.*

The soap I refer to is filled, of course, but is so with good and detersive materials which will help the soap to wash, at about 2½ cents per pound.

The average price obtained here by manufacturers is about 4 cents or over per pound of soap, and yet hard times are complained of and dearness of raw materials.

Why, soap-making at present prices should be better and much surer than a gold mine. Allowing largely for all expenses, manufacturers should get fully 1 cent per pound, or 25 per cent. net profit of gross selling price; 25 per cent. per month runs into something like 300 per cent. a year on capital invested, if judiciously used.

I refer to tallow, grease, oils and rosin settled soaps; other good and serviceable soaps of good washing and lasting power can be produced at about 2 cents per pound.

If in some other parts of the world soap manufacturers can make clear 1 per cent. profit on their output they consider it good, for it totals about 12 per cent. yearly; at 1½ or 2 per cent. they think themselves exceedingly lucky, and so they are in getting 24 per cent. on money they can get for 3½ to 4 per cent. interest a year.

Such manufacturers, however, employ no apprentice soap-makers; they want the very best that money can hire and pay them well; they require no jacks-of-all-trades, to do all sorts of things from looking after a boiler to blacking their boots. The soap-makers simply boil soap and nothing else. Talk, it is said, is cheap and money buys land. But I am prepared to demonstrate to any challenger that I can do as stated above, and so can any really capable soap-maker. Then why those complaints of hard times? What I speak of is a good, serviceable hard soap, made quickly and well, and fairly good-looking at that, at about 2½ cents per pound (that is, cost of materials only), made from tallow, grease, rosin, etc., with tallow at 7 to 7¼ cents.

I am, sir, yours sincerely,

A. D'ESTAMPES.

[In a note accompanying the foregoing, the writer of the above letter states himself that, if we decide to print it, we may be criticised for doing so. But our readers are in duty bound to agree only with our own editorial notes which we consider above all criticism, of course; with communications from our readers they may disagree *ad libitum,* especially if they will give vent to their views in these columns. Our aim is to provoke and foster an exchange of opinions rather than place obstacles in the way.—Ed. A. S. J.]

Systematizing the Work In Modern Soap Factories.

BY GEO. A. SCHMIDT, CHICAGO.

Large manufacturers of soap use different systems than the smaller ones; with the former, ordinary, well-known business rules are sufficient—they make but one or a few kinds of soap and do not believe it necessary to go into details about the manufacture; and for the smaller ones systematizing work as indicated in the March number of this JOURNAL hasn't much interest because their output is too insignificant to need much of a system, so they think; but the future will show they are both mistaken, the business of either of them today is far from satisfactory, mostly because the division of labor is not carried on far enough, because the distribution of goods is not systematized properly. It is perfectly useless for our largest concerns to try to convince the public that one or another of their brands is good for all purposes and *thus* simplify matters; the public will not believe it, as is proven by the necessity of keeping on advertising (make the public *believe* it to be so) and by the demand for improvements in soaps.

In order that large and small soap manufacturers and those of medium size may better understand the advantages of the system I advocate, and to enable me to "ring in" occasionally some reminiscences of my European trip, as all travelers rejoice in doing, I invite readers to imagine themselves to be standing with me in front of the "Kurhaus" at Interlaken and look up with me on the snow fields of the Jungfrau. The biggest soap manufacturer climbing up there would appear in the powerful telescope set up for the purpose as a tiny speck of dirt on the snow white fields, and were that manufacturer to look down from up there and look for some small colleague of his, standing on the meadows below, he couldn't find a trace of him, because the air is not as clear below as on lofty heights, and the green meadows form no contrast with the soap-maker (who perhaps is rather green, too). It serves many a good purpose to view the world from a high standpoint; the individual does not consider himself so important any more, he is more inclined to associate himself with others, so that by *united* efforts he may help to produce something worth preserving, and to leave traces behind of his work.

If we look upon the soap manufacturers of the United States (we must not make our field of vision too great,

otherwise the view will be indistinct) from a high point of view, they, as a class, ought to produce the best possible means for sanitary cleanliness at the lowest "living" prices; they should set an example to the world in this branch of industry as we do in many others, and I am trying to do my share to reach that end, by explaining an improved system.

If we take up the best authority on modern soap-making, Dr. Gathmann's book on "American Soaps," we find described therein many kinds of soaps; many soap-makers all over the country are trying to make these soaps and improve on the processes there described. Because there is no system in their efforts, an enormous waste of energy, time and money is the result. *Real* progress endeavors to save heretofore wasted material, time and labor. I have saved much by adapting to soap-*making* the system of numbering as explained in the March number of the SOAP JOURNAL; this method is as useful in the small factory employing only a few hands as in the large establishments; its value increases as do the number of people employed and the variety of soaps made: the more detailed *proper* division of labor can be made, the greater will be the benefit derived from systematizing work.

As every experienced soap-maker knows, there are many defects on even the best of soaps; all those used by professional men, by doctors, surgeons, silk dyers, wool scourers, barbers, etc., are severely criticised, and the more intelligent their users, the more complaints they have to make about the quality of the soaps they use. To satisfy these demands, the following precautions should be taken: Let us take as an example the manufacture of "gritty" soaps in cake form (amongst which the more familiar brands of Sapolio, Bon Ami, Kitchen Crystal, Scourene, etc., etc., might be mentioned); for the soap-*maker* they should simply be known by a quality number, say 29, which was given to the original product. By and by a party comes around offering another grit, whiter in appearance, finer in grain, lower in price; he has "struck a mine" somewhere out West and is going to revolutionize the world with the discovery (as far as methods of cleaning and polishing things are concerned); as microscopical examination and practical tests make you believe "there is something in it," you order a few tons and make trials; be sure now to record under a subdivision number, 29a or 29aa, or even 29aaa, and so through the alphabet, what these tests tell you, whether you need more "binding" materials, more or less soap, etc., to make a good product; note how each batch turns out in time, whether it ages well, what defects it shows, etc., etc., and you will be surprised what amount of exceedingly valuable information is thus gathered in time. Such a system enables you to post yourself on every question that may turn up; it gives you great advantages over your less methodical competitors, without causing you more work; records must be kept in every factory, but to get at them when most in need, to file them so as to be comprehensible, for that purpose the system described is invaluable.

The "division of labor" amongst soap manufacturers as individuals as well as a class is very bad indeed, and cannot yield satisfactory results. As it now is, individuals, or a number of them, club together, and they all work in their own way, without any definite plans, without system.

All would profit by a better division of labor, by assigning each person to such work as he is best fitted for. As the different parts of a watch or a sewing machine are made by many people and afterwards assembled and sold as a whole, so ought the different "numbers" of soaps be made separately and the distribution of same ought to go through one channel; in this way really meritorious, suitable, effective cleaners, beautifiers and purifiers, modern soaps, much better in quality, more efficient, nicer in appearance, than are now to be found the world over, could be supplied by American manufacturers.

"Nice words," some of our readers will say when reading above, but the execution of the ideas is not as easy as writing an essay on the subject. Well, the very first step towards all improvements are clean and correct ideas and I am trying to impress these on the reader. Let others keep the thing moving.

How Soap Is Colored.

The buyer of soaps desires not only that the quality and the scent of the article be pleasing to him; he has also a preference for colors, and purchases rather an inferior soap for a good price as an excellent whitish-yellow substance of great purity. This is the reason why the manufacturers are always so eager to add an agreeable appearance to the other qualities of the article. To mention all the coloring materials for soap is not possible, they are too numerable, but there is a curious point between them; the materials which color soap very easily are at the same time very expensive, and, for that reason, excluded from the production of the middle and lower qualities; they are only employed in the manufacture of the best article.

Metallic oxides have taken the place of cochineal, and aniline colors compete with plainer substances to produce a red color, which was formerly made exclusively out of the natural substance, which had to be substituted on account of costliness. The general employment of the metallic oxides has its only advantage in the decreased cost; their employment is much more difficult, and their specific gravity is very high, which results in a bad homogeneous impregnation in case it is used for

incorporation in a mass of soap which is too liquid; in these cases the metallic oxides settle down in the lower strata, just like sediments in oil. For this reason, the compound of the soap has to be brought to a sufficient firmness and consistency, preventing the color from settling in its own strata. Mineral colors cause also opacity, and can, for this reason, not be employed for making transparent soaps.

It is necessary to grind the oxides as fine as possible; the powder must contain no hard grains, which unsettle the soap. The metallic oxide colors are permanent, and last an indefinite time, an advantage which is not held by aniline colors, which are sometimes substituted for these. It is therefore curious to note how, in spite of these disadvantages, coal-tar dyes have been advancing in the universal use of soap-production, and it looks as if the tendency was to supplant all mineral by aniline dyes in the coloring of soaps. The sensitiveness of the latter coloring materials to light are a great inconvenience, and this drawback can only be forgotten by the beautiful and excellent results which can only be achieved by their employment. It is a further bad point for aniline dyes that they are often destroyed and nearly always affected by alkalies; only a few of the compounds can withstand the influence of a small excess of base, and these can be used with the full assurance of success.

The production of colors for soap-makers has been made a specialty by several dye manufacturers, who make color compounds which can be used by all soap-boilers without difficulty. The color substances are dissolved in boiling water and then added to the soap, when the mixture must be well stirred up. A few of these color compounds need mixing with a little oil previous to their addition to the soap substance. A pharmaceutical expert gave recently in the contemporary, "La Parfumeries et Savonnerie Francaise," the following list of color materials, mostly employed in the manufacture of soap:

Fuchsine has taken the place of cochineal on account of finer color effects and a much cheaper price; a small quantity suffices to give a fine and effective shade. Only very little quantities of this dye must be used, otherwise the soap stains other materials it comes into contact with, or for the washing of which it has been employed. Opaque soaps use always aniline red, sometimes also mineral colors, as vermilion, chrome red, and iron-oxide. Phthalein dyes give very delicate and excellent shades of colors, such as are known as eosine, Bengal rose, and rhodamine, and these three are also to be preferred. When the colors are dissolved in a liquid, they show great fluorescence, a fact known to those who handle the material, and this is another point in favor of the product. As stated before, it is not possible to use mineral dyes for the coloring of transparent soaps, and in these cases, the phthalein dyes enter a particularly suitable field.

Vermilion gives a most brilliant color, only the material costs such an excessive price, for which reason it is no wonder that chrome red, a chromate of lead, has found such great favor, and is used everywhere as a substitute for vermilion. Only the chrome red becomes black as soon as it is placed in an atmosphere which has only the smallest traces of sulphuretted hydrogen, and, for this reason, it cannot be called a suitable material for soap-makers. Colcotar (colcothar), or oxide of iron, an article which has also many other names, is much used for the cheaper kinds of soap, and it proves for this purpose fairly effective. Yellow anilines mostly in use are made of yellow naphtol and picric acid, and these colors, which, in combination with fuchsine, give excellent orange shades, can also be highly recommended. It would be more advisable to add a little raw palm oil instead of the small quantities of fuchsine, were it not that no fixed color can be obtained by the addition of the substance, which is a serious drawback.

Chrome yellow, like the mineral yellow, would find frequent employment, but the influence of sulphuretted hydrogen turns the mixed substances to a blackish color. Ochre is also used for the yellow coloring of soap; it dyes the soap yellow when used in its natural state, but if used after calcination, the color effect is orange, and very agreeable. There is a considerable number of other yellow colors, of which some are natural, and the others artificial. The former class includes dyes like caramel, curcuma, and saffron; the last-mentioned finds only very occasional use, on account of its high price, which makes it too expensive for all but exceptional cases.

Aseptic Surgical Shaving Paste.

BY EDMUND WHITE, B.Sc., F.I.C.

In the *St. Thomas's Hospital Gazette* last year the author published an account of a scheme devised for the preparation of skin areas of patents about to undergo surgical operations. It is customary to thoroughly cleanse the skin areas by scrubbing with soap, or ether soap, and in many cases this area is shaved immediately before the operation. Apart from the application of routine methods of disinfection to the hands and appliances of the hospital barber, the scheme involved the rejection of the ordinary method of shaving by means of lather, since this also involved the use of a brush which cannot be rendered aseptic. A substitute was found in wax emulsion, which could be applied to the area to be shaved by the hand. The formula for the wax emulsion was not, in the original papers, published in detail because, although the material then in use successfully fulfilled the functions for which it was devised,

the author thought the emulsion might be improved by further experience. The formula now published is the result of this experience and is as follows:

Hard paraffin (M. Pt. 55°C.)	22	parts	by weight
Suet	3	"	"
Soft soap	2	"	"
Water	68	"	"

Place these materials in a vessel surrounded by boiling water and when the fats are melted beat them together until a smooth white emulsion is obtained. Continue the beating, maintaining the temperature above 7°C. and shake in gradually

Tragacanth in powder..... 2 parts

When the mixture is homogeneous, allow it to cool by removing the boiling water, and when nearly cold add

Glycerin	2 parts
Oil of lavender	1 part

The ordinary beater-mixing machine has been used for making, but small quantities may be made equally well by means of an egg whisk in a stone jar standing in a saucepan of boiling water.

Mr. White's first experiments were made with paraffin, water and tragacanth alone, but emulsification was troublesome, and he afterwards found the addition of some other fat, such as suet, lard or tallow, and the use of a little soft soap greatly facilitated the operation. The tragacanth was then added to impart the necessary viscosity, and to prevent the separation of palpable particles of wax during cooling. The addition of a little glycerin also prevented the film drying too rapidly on the skin, but only a small proportion can be used, as larger portions render the skin sticky.

In use a small quantity is rubbed over the area to be shaved and the razor immediately applied. The amount required varies somewhat with the texture of the skin and hair, but a little practice gives the necessary indication. The material has been in use in St. Thomas's Hospital for about twelve months and gives satisfactory results. For shaving in the hospital, apart from surgical preparations, its use is compulsory, unless the patient provides his own brush and soap, so that the transference of skin disorders, apart from general septic contamination, is reduced to a minimum.

That Reminds Me.

"And this rminds me of an Irish woman who once held a number of trains on the Milwaukee road near Albion for two days because the company had failed to make a satisfactory settlement with her for the right of way through her land. She covered the rails with soft soap, and when the engine reached that spot its drive wheels began to spin like tops. The slippery rails were at the bottom of an incline, and the only way they could get the train out was by backing another from ahead of it and then hitching on and pulling it away. They tried running down the incline with a good start to get over the spot, but that did't work, either, although sand was liberally sprinkled on the rails. The soap was so greasy that water did not help much. Finally after two days it was sanded off. Then the old woman tried the same trick again and the company promptly made a settlement with her.

"That was the time a lone woman brought a corporation to time with greater promptness than the courts could do it."

[The last sentence must have been written ten years ago, along with the rest of the story. Now-a-days it would be the railroad lawyer himself that would apply "soft soap" where it would do the most good, and the courts would issue an injunction against the lone woman aforesaid.]

But here is another addition to our list of soap uses, anyway.

Infringement of Trade-Mark Rights.

BY ELI B. FELSENTHAL.

The restraining arm of a Court of Equity is exerted upon the same principle upon which the court acts in trade-mark cases, in restraining the unauthorized use of the label or sign constituting the trade-mark. A resemblance in or an imitation of the names, signs, or marks, under which another conducts a business, is a deception practiced upon the public, and an injury to the proprietor, in the loss of custom and patronage, to redress which an action at law for damages is not a sufficiently satisfactory remedy.

The first trade-mark law in this country was passed in 1870, and the first law in England was passed in 1875, so that, as before stated, practically all the law upon this subject has been laid down within the last twenty-five years. A few of the many cases which have been decided by the courts in this country and England will serve to illustrate how far the courts go to prevent unjust and unfair competition in trade. In a certain case plaintiffs were manufacturers of blacking, which they sold in bottles labeled with words "Manufactured by Day & Martin." Defendants sold blacking in similar bottles with similar labels, except that for the words "Manufactured by Day & Martin" were substituted the words "Equal to Day & Martin's," the words "equal to" being in very small type. An injunction was granted.

In Moxie Nerve Food Co. *v.* Baumbach, 32 Fed. Rep., 205, complainant owned and used a trade-mark consisting of the word "Moxie," prefixed to the words "Nerve Food," with a label containing a picture and descriptive words. It also used a champagne bottle wrapped in peculiar paper, etc., in which to put up this preparation. Defendant used words, "Standard Nerve Food," with reference to a similar article, and put it up similarly.

A motion to dissolve the injunction was refused, Sabin, J., saying: "While it is clear that words or articles in common use could not be enjoined if used upon other preparations, yet if used upon like or simulated preparations of same flavor, taste and appearance, it seems to me that they can; and particularly when the first party using the same, in connection with his trade-mark and style of package, has established such a use of the same, and an intimacy between himself, it and the public, so as to become a matter of value by way of preventing deceit. * * * There is room enough in the world for all, and so there are bottles and styles of package senough for all; and if a man has an article which, either by accident or design, happens to have the same quality, and be entitled to the same descriptive class of goods, and of the same taste, flavor and color as another's, and when used, is used in the same way, or is in imitation of another's article, and he finds that his neighbor is making money by vending such article of his own, why then, and in such case, let him use a different kind of bottle or package in placing his own preparation before the public, to the end that he may neither derive advantage over his neighbor, nor induce the public to buy one thing when they think they are buying another."

In another case, the plaintiffs, thread manufacturers, placed on one end of their reels, labels with the words, "Taylor's Persian Thread," and on the other end the armorial bearings of the City of Leicester, the words "J. & W. Taylor Six Cord," etc. Defendant used similar reels, placing on the labels on one end, "Taylor's Persian Thread," and on the other, "Sam Taylor," and his own armorial bearings. The court, in granting an injunction, said: "In every case the court must ascertain whether the difference is made *bona fide* in order to distinguish the one article from the other whether the resemblance and differences are such as naturally arise from the necessity of the case, or whether, on the other hand, the differences are such as are obviously intended to deceive the purchaser of the one article into the belief of its being the manufacture of another person. Resemblance is a circumstance which is of primary importance for the court to consider, because, if the court finds, as it almost invariably does find in such a case as this, that there is no reason for the resemblance, except for the purpose of misleading, it will infer that the resemblance is adopted for the purpose of misleading."

Cases of this character might be multiplied much beyond the limit allotted me, and there is great temptation to do so, but I desist. I wish only in conclusion to refer to one or two cases which have come up in my personal practice, to illustrate that the courts of equity do not always interfere by injunction.

Some years ago a client came to us to ask whether he was entitled to an injunction against a rival concern doing business on the same street. The concern complained of had imitated his particular method of painting the word "Misfit" on a sign. My recollection is that the words "Misfit Parlors" were used, and the rival on the same street had made a very close imitation of the words used by the original "Misfit Parlor" proprietor. Upon investigation, it was disclosed that the original misfit man was, in fact, selling ready made garments much as other clothiers were doing, and that while he was pretending, by his sign, to sell to the public only uncalled for suits which had been left because of some fault on the part of the maker, that is, while he was pretending to sell custom made garments, he was, in fact, simply selling ready made articles. Inasmuch as he was, by the sign for which he sought protection, trying to deceive the public, he was advised that a court of equity would afford him no relief.

In another case, a bill was filed by a very large mail order house to enjoin the publication of their catalogue, which had been copied bodily by a concern just starting into business. The new concern simply changed the names at the top and bottom of the printed pages. Upon an examination of the catalogue, it appeared that there were many false and fraudulent statements therein. Certain advertisements, for instance, quoted alleged reduced prices on articles which could be obtained anywhere in the market for the same price. The exclusive right to sell certain articles "manufactured expressly" for them was claimed, when, in truth, these articles were manufactured for any person who chose to give an order to the manufacturer. In other words, the catalogue contained so many misrepresentations that it became apparent to complainant, when the answer of the defendant was filed, that they had violated a fundamental principle of equity and had not come into court with clean hands, so the bill was dismissed.

Just one more instance and I shall close. A prominent State street concern, which we will call The Spoke, has a very large and lucrative business. Its name has become very familiar on account of the vast sums spent in advertising and display. Among other things this concern sells shoes. A neighbor, a small shoe dealer, purchased some shoes from a firm called The Spoke, and which had failed in business out in Iowa. The small dealer put in his window the words, "Purchased from The Spoke," the words "The Spoke" being in large letters, and being very conspicuous, while the other parts of the advertisement were insignificant. There was no doubt that he had purchased the goods from The Spoke in Iowa. There was no doubt about his right to sell goods of that class. His advertisement spoke the truth, but it was intended that people should believe, when they entered his store, that they were dealing with his lage neighbor. Upon an examination of the authorities we advised this small dealer to desist from his iniquitous practice.

In fine, I may say that in this class of cases, the courts proceed upon the broadest principle of equity,

and relief is sure and swift if the complainant can show the fraudulent appropriation of any sign, symbol or device adopted by him and fraudulently imitated with the design of cheating the public, and the purpose of obtaining an advantage by unfair and unlawful competition.—Drugs, Oils & Paints.

The Annual Trade Dinner of Edward Cook & Co., Ltd., London.

On Saturday, the 19th ult., Messrs. Edward Cook & Co., Ltd., the well-known soap specialists, of East London, again had the pleasure of entertaining their staff, agents and travelers, numbering about one hundred, at the Holborn restaurant, where dinner was served in the "throne room." Mr. William Cook presided, supported by the other directors, Mr. Samuel Hall, Mr. T. Alex. Cook, Mr. S. Godfrey Hall, and by Mr. Leonard Cook, etc. Mr. Miall Cook was unfortunately prevented from being present, and also Mr. Martyn Cook, who is at present in Switzerland.

The chairman proposed the usual loyal toasts, and in doing so said with what universal pleasure and satisfaction every Englishman had received the gratifying intelligence of the King's recovery, adding that he was sure it was the earnest hope of everyone present that His Majesty might soon be completely restored to health. The toast was drunk with the greatest enthusiasm, with musical honors. The toast of the "Office and Works" was proposed by Mr. T. Alex Cook, who in the course of his remarks referred to the excellent work done during the past year, and to the fine new offices of the company just completed and occupied. These are of the most spacious, and comprise a splendid suite of rooms—(board room, directors' rooms, secretary's, cashier's, dining rooms, etc., etc.)—the electric lighting, ventilating, lavatory arrangements, etc., being of the latest approved designs, and are such as must be conducive in the utmost degree to the health of those who work there. This toast was responded to by Mr. Leonard Cook and by Mr. Hughes. The toast of "The Agents and Travelers" was proposed by the chairman and was responded to by Mr. Herbert Saunders in a most humorous speech—and by Mr. Fred A. Manners, representing town and country travelers respectively, there being present, amongst others, the following gentlemen: Mr. W. Waller, Mr. J. S. Warburton, Mr. D. E. Challen, Mr. A. K. Tanner, Mr. Cobden Hobbs, Mr. W. E. Booth, Mr. J. Bowerman, Mr. J. H. Cunnington, Mr. H. E. Goodwin, Mr. H. Alchin, Mr. E. Hoggarth, Mr. H. E. Harman, Mr. P. Smith, Mr. J. B. Child, Mr. Kemp, Mr. C. Butteris, Mr. E. Pond, Mr. E. Grattan, and Mr. McLernon. Mr. Bassett was prevented from being present through illness, to the regret of all the company present.

The toast of "The Company" was proposed by Mr. H. T. M. Attwell in a most enthusiastic speech, and who in the course of his remarks stated that he was assured that the staff were animated by the most earnest desire to do their very best in their several spheres to promote the best interests of the company. The toast was responded to by Mr. Samuel Hall, who said that it was most helpful to the directors to feel that they were sustained in their arduous duties by the knowledge that they had the hearty support of a united staff.

The toast of "The Dining Club" was proposed by Mr. Godfrey Hall, who stated that it was a great pleasure to the directors to learn that the club had proved such a source of benefit to the members of the staff. He trusted that before long it might be found that other advantages might be added to the club, such as a circulating library, etc. The toast was responded to by Mr. G. A. Briana in a few well-chosen remarks.

During the evening a first-rate entertainment, consisting of vocal and instrumental music and recitations, was given entirely by the members of the staff, Mr. Attwell contributing two songs composed by himself, much to the amusement of the company. Mr. F. E. Blair rendered most efficient help during the evening at the piano, and was heartily thanked by the assembled company for his services.

Although the results of the past year had not proved at all sufficiently profitable to permit of anything in the nature of a distribution of substantial bonuses—the company being one of those whose directors believe in profit sharing—the chairman stated that it was with great pleasure they were able to present each gentleman with a "complimentary" cheque for a small amount, simply as an expression of their good wishes.

The meeting terminated by the singing of the National Anthem, after spending one of the most successful evenings in the history of the company.

The Trusts Again.

This is the harvest time of the great combinations, but in the midst of the grand hurrah it is well to remember old Herrick's lines—

Gather the roses while ye may,
Old Time is still a-flying."

The day is coming, as surely as the sun will rise and set in the future, as in the past, when the floods will come and the rains descend and beat upon these houses, and only those that are builded upon the rock of sound business principles will stand, while those that are builded upon the sand of inflation and fictitious capitalization will fall—and great will be the fall thereof.

Mr. Andrew Carnegie, who knows as much as any other living man about the essentials to success in business, has considered the question for our enlightenment in a recent magazine article. His conclusions may be summed up in a phrase: Business laws apply equally to the affairs of a thousand individuals incorporated as

to one man trading alone. According to him, the Standard Oil Company has been a great success because it has observed the unwritten statutes. According to him, also, the commercial field of the past twenty years is thickly planted with monuments to dead corporations, because these corporations ignored or defied the immutable law.

When, in a piping time of peace and plenty, like the present—a time when nature conspires with circumstances to heap plenty upon prosperity, the individual business man, striking from month to month his modest balances and noting how slow are the accretions gained by the old-fashioned rules of figuring arithmetical percentage, noting also the suddenly-acquired wealth of an occasional gambler, is apt to ask himself whether, after all, the old arithmetic is not out of date—whether the advent of the twentieth century has not made it possible for the adept to make twice two equal ten. This is the initial temptation to consolidate—to put his ten-thousand-dollar business with other ten-thousand-dollar businesses, and with the aid of the Æolian promoter and the artistic engraver, to hocus pocus a combined cash capital of one hundred thousand dollars into a putative certificate capital of one million dollars. The deed can be accomplished—it has been performed before our eyes time and again during the past few years. Prosperity, confidence and credit are mighty balloons, and when the air is calm and the barometer high, will steadily support heavy burdens at a great height. But barometers do not remain high, nor does the air remain calm. Cyclones and anti-cyclones will appear on the financial weather chart, and then Heaven help the balloons and their burdens.

Consolidation is wise and judicious when competition or over-production annihilates profits; but consolidation is never judicious and never wise if the obligations assumed to effect it represent more than the values consolidated. What industrial entity could be more open to attack, more helpless in the face of intelligent competition than one of which the fixed charges exceed the normal manufacturing profits? Yet we have before us at this moment more than one trust of which this is the actual condition. For instance, it is asserted of one great trust that in order to pay the interest on its bonded debt it must sell at twenty-eight dollars a ton a commodity which it costs only thirteen dollars a ton to produce. Can such a burden be borne indefinitely? We think not. We believe that reorganization and a scaling of the debt are inevitable as soon as the demand for this particular commodity at any price begins to relax. And when reorganization and scaling come, be it remarked, the blowers of the great bubble will not be hurt, but thousands of modest investors and the faith of the public will be hurt, and grievously.

There has been no consolidation in the paint or varnish trade, desirable as an equitable consolidation in these lines would be on many accounts, simply because the mathematical facts of the situation are plainer in these trades than in some others. Many would be glad to consolidate—on their own terms—but few care to consolidate on the basis of two and two make four. Yet this is the only basis on which consolidation is safe or desirable.

The only sound foundation for consolidation (sound that is for honest men) is earning capacity, and the consolidations that have been effected on any other basis, it may be safely predicted, have most of their history ahead of them.—Drugs, Oils and Paints.

The Cotton Seed Industry.

BY CHARLES M. DAUGHERTY, OF THE DIVISION OF STATISTICS, IN YEAR BOOK OF THE DEPARTMENT OF AGRICULTURE.

Of the ordinary commercial fiber plants, cotton is the only one the fiber, or lint, of which adheres to the seed; the fiber of the others is derived from the stalk or stem. From the cotton plant both seed and fiber are gathered by a single operation, so familiar to the colored people of the South as "cotton picking;" but from the other fiber plants the fiber is separated by such processes as retting and scutching, entirely distinct from that of harvesting the seed of such plants as flax, hemp, etc. From this characteristic of the cotton plant, necessitating the handling of the seed in order to obtain the lint, there have been evolved, through a slow and unforeseen course of events, two separate industries of vast economic importance. The invention of the cotton gin over a century ago had for its sole purpose the separation of the valuable lint from the then worthless seed. The marvelous effect of this invention upon cotton production and industry throughout the entire world, but especially in the United States, forms one of the most interesting chapters in the annals of agriculture. For three-quarters of a century thereafter (a period, too, characterized by an ever-increasing utilization of the forces of nature) cotton was raised over larger and larger areas almost exclusively for the lint, and the cotton seed remained by all odds the most important contribution of the Southern states to the world's great volume of waste.

GROWTH OF THE COTTONSEED INDUSTRY.

It was not until after emancipation—not, indeed, until after the cessation of the disturbed political and economic conditions of the reconstruction period in the South—that the seed of cotton was utilized in any important extent for industrial purposes. True, there is record of a mill for the extraction of oil from cotton seed at Columbia, S. C., as early as 1826; another was built at Natchez, Miss., in 1834; one is known to have been in operation in New Orleans in 1847; and a few other mills were built previous to the Civil War. But as late as 1867 the slow progress that the industry had made was attested by the fact that there were only four

mills actually in operation in the United States. The early operations of the new industry were carried on with the greatest secrecy, as though to guard a valuable mechanical secret, but it is now known that no radically new mechanism had been invented, as had been the case in separating the lint, for the extraction of oil from cotton seed. In the main, the machinery and principles long utilized in different parts of the world for the extraction of linseed oil from flaxseed had merely been adapted for new uses.

The cotton seed industry, at present one of the most important industries of the Southern states, has, therefore, been practically the growth of the past thirty odd years. It is confined, so far as the United States is concerned, exclusively to the cotton producing states. The liability of the seed to heat or to deteriorate, if either moist or sappy, in transportation or in storage, has had a tendency to confine the erection of mills strictly within the territory where the raw material is grown; and the South has today a more exclusive monopoly of the manufacture of this product than of any other product of agriculture raised generally throughout that section. From 1867 to 1897, a period memorable for the awakening of industrial activity and enterprise throughout this heretofore strictly agricultural territory, some 300 cotton seed oil mills were erected throughout the South. About one-third of these were built in Texas, a state where not far from a like proportion of cotton crop is now annually grown. The remainder were distributed throughout all the other cotton producing states, the guiding purpose in construction usually being, not to embrace the apparently inexhaustible sources of supply, but rather to secure the easiest delivery of seed—either by wagon, rail or boat—at individual mills.

Among the many cities, towns and villages that profited from the establishment of the new industry, Memphis, Tenn., because of terminal, transportation and other facilities, became prominent as the largest single cotton seed oil producing center in the United States, and, with one exception, in the world. The 300 mills erected throughout the South during these thirty years were generally in response to a steady increase in the variety of uses made of their products. No effort was made to create a milling capacity capable of handling more than a small, though constantly increasing, proportion of the annual supply of raw material. In fact, at the close of this period it is estimated that only about 40 per cent. of the total cotton seed crop was utilized for manufacturing purposes; the remainder, save that used for seeding and feeding purposes and the modicum used for fertilizing, was consigned to waste.

USES OF COTTONSEED OIL.

The rapid growth of the industry was largely due to the great variety of uses, both edible and industrial, to which its products were found to be adapted. Cotton seed oil, like many another product of intrinsic edible value, was first offered in a finished state to the consumers under a deceptive label, bearing, in this instance, the inscription "pure olive oil." Its first introduction into trade and commerce was as an adulterant; and, as is usually the case with adulterants, its own title to consideration as a product of inherent comestible value thereby became considerably impaired in the popular esteem. The exact extent to which cotton seed oil has since been used for mixing with olive oil cannot be ascertained, but it is notable that when used for this purpose alone fancy prices attested its value, and attractive profits for manufacturers were a powerful impulse to increase in milling capacity and in production. Naturally, a decline in values followed, and cheaper high grade cotton seed oil, mixed with certain beef products, was found to make a profitable and valuable cooking material. A product generally known as "compound lard," in which the identity of cotton seed oil was but faintly suggested in the word "compound," was placed upon the market as a substitute for hog lard. Later, other like mixtures of cotton seed oil with animal fats were devised, some containing pure lard, others not, and the principal market for this oil soon became centralized in the packing industries in the West. It has been stated upon good authority that 30 per cent. of the cotton seed oil now manufactured in the United States is purchased by packing houses, and utilized in the manufacture of various substitutes for lard. In fact, the price of this oil is now largely regulated by the fluctuations in the price of lard. Subsequent important uses to which this product has been put are as a substitute for olive oil in the packing of sardines and similar fish, as an ingredient in the manufacture of butter, and for giving a "natural" butter color to oleomargarine. In addition to its edible uses, cotton seed oil has been adapted to many others. The residue from processes of refining and finishing the oil, and oil made from damaged seed, are largely utilized in the manufacture of a soap valuable for wool scouring and other purposes, and in extensive demand, both at home and abroad. The cylinders of phonographs are also made from this residue, and an excellent laundry soap results from its combination with other greases. An oil bleached white by sulphuric acid and mixed with petroleum for use in miners' lamps is made from the lowest grades of the crude oil. Candles, glycerine and various other products are also manufactured from oil expressed from cotton seed.

From the foregoing, it became apparent that the chief use of cotton seed oil is in the preparation of human food. Practically, all the high grades are utilized for edible purposes. Besides its important monopoly as a substitute for lard, it is a strong competitor in the channels of trade with oils of the olive, the peanut and the cocoanut. On the other hand, the industrial uses of cotton seed oil are, with few exceptions, comparatively limited, or are confined to products manufactured from

off-grade oil, or to the residue from refining. In the three great industrial uses of oils—illumination, painting and lubrication—cotton seed oil is not an important factor. As an illuminant, its use is confined principally to the miners' lamp. Its deficiency in drying has thus far interfered with its commercial success as a substitute for linseed oil in paint, and as a lubricant it is limited to the most ordinary uses, no process having yet been found for eliminating the gum which makes it objectionable for general lubricating purposes. The chief industrial use of cotton seed oil is for soap making, and for this purpose it has a large domestic and foreign demand.

BY-PRODUCTS FROM MANUFACTURE OF COTTONSEED OIL.

The by-products from the manufacture of cotton seed oil have a combined money value almost equal to that of the oil itself, but their uses are less varied. With one unimportant exception, their greatest utility has gradually been demonstrated to be confined to cattle feeding. Upland cotton seed, the principal source of cotton seed oil in the United States, is covered, as delivered for the oil making process, with a fuzzy coating of short lint; for, on account of the tenacity with which the commercial staple adheres to the seed the ordinary process of ginning for the purpose of obtaining this staple fails to remove it cleanly from the seed. Upon an average, about 70 pounds of short or broken lint adhere to each ton of ginned seed. At the oil mills the first process to which the seed is submitted, after cleaning it from sand and other foreign substances, is reginning, for the purpose both of removing an oil-absorbing substance and of effecting an economy in saving a part of this inferior lint. Under ordinary conditions, about 30 pouds of short lint are obtained from each ton of seed. From the seed of a cotton crop of 10,000,000 bales there could thus be effected a saving, which, at an average price of $15 a bale, would amount to $4,500,000.

(To be Continued.)

Cold Process Manufacture of Axle-Grease.

By S. Stanislawski.

The new cold process of manufacturing axle-grease is every day more and more replacing the hot or saponification process. It enables the manufacturer to confine his plant to a few barrels, a sieve, a stirrer and a balance. In spite, however, of the extreme simplicity of this installation, much secrecy is maintained as to the process, a secrecy which this article is intended to remove.

The raw material is rosin oil, which is usually made by distilling American rosin of the brands E. F and G, either separately or mixed. The worst colophony to use for the purpose is the Greek product. Few manufacturers fractionate the rosin oil. Having thrown away the watery first distillate, they collect all the other distillates together, and distil till nothing is left in the still but pitch. Some, however, keep the fractions of rosin oil separate, and use each for a different kind of lubricant. In this way the cost of manufacture is increased, it is true, but better products are the result. Some makers, again, work by both methods, lumping their fractions together when they are making cheap axle-grease, and keeping them separate when they are filling orders for better qualities. The cold process is based upon the easy saponifiability of the heavy fractions by slaked lime. The soap is, however, very hard and brittle, so that it would be no use as a lubricant unless it were mixed with petroleum. This is done by adding the petroleum to the lime, so that it combines with the soap as the saponification goes on.

The quicklime used must be fat, i. e., must contain at least 96 per cent. of CaO. Even as little as 5 per cent. of magnesia retards the saponification greatly and leaves the product gritty and lustreless. The saponification is done at a temperature of from 18 to 20 deg. C.

The blue rosin oil gives the grease its lustre by enabling it to oxidize. The pinoline helps in the same way, but also gives the grease its own characteristic odor. Most makers, however, prefer to keep the pinoline apart for more lucrative uses.

These axle-greases are sold of all colers and under all kinds of names. The following recipes (in which only the coloring matter is omitted) represent some of the best-known brands:

"Finest" or "Natural Color:" Pale blue oil, 75 lbs; slaked lime, 10 lbs; rosin oil, 15 lbs.

A1 (Swimming): The same, except that either blue or green oil is used.

A1: Blue oil, 60 lbs; lime, 9 lbs; gypsum, 18 lbs; rosin oil, 13 lbs.

Mercantile: Blue oil, 44 lbs; lime, 8 lbs; gypsum, 39 lbs; rosin oil, 9 lbs.

Excelsior or A1 Videet (Oxidizing): Light blue oil, 64.5 lbs; slaked lime, 9.5 lbs; rosin blue oil, 13 lbs; stock oil, 13 lbs.

A1 (Swimming): A1 blue oil, 36 lbs; naphtha dregs, 36 lbs; lime, 12.5 lbs; rosin oil, 16.5 lbs.

A1: A2 blue oil, 32 lbs; naphtha dregs, 24.5 lbs; lime, 10.5 lbs; gypsum, 21.5 lbs; rosin oil, 11.5 lbs.

Mercantile: A2 blue oil, 20 lbs; naphtha dregs, 23 lbs; lime, 8.5 lbs; gypsum, 40 lbs; rosin oil, 8.5 lbs.

The last three are meant to be colored black with lampblack. Blue greases are colored with fat-soluble aniline. Olive-green axle-greases are colored by using a green rosin oil in their preparation and "natural colored" ones with dark mineral oils, while "white" greases are prepared with all the ingredients as pale as possible. These last kinds are never really white axle-greases, but of a dirty though light yellowsih-green color. Their paleness, especially when of Belgian make, can be increased by adding 3 per cent. of warm lime-water. "Monfal-

con" white axle-greases can be made whiter with a 6 to 10 per cent. solution of carbonate of soda. When aniline dyes are used they are added in the form of a 1 per cent. solution in petroleum.

The adulteration of these axle-greases with mineral matter is greatly to be deprecated. It is, however, a necessary result of the terrible cutting that goes on in the lubrication trade. The result is that the user expects to get lubricants at prices for which it is impossible to manufacture them, and the only resource is to add inert mineral powders, such as gypsum or chalk. A less injurious adulterant is colophony. This is dissolved in blue oil, and from 5 lbs. to 10 lbs. of the solution are added to every 100 lbs. of the axle-grease.

The process of manufacture is as follows: The mineral oil and dry slaked lime are mixed, and, after at least half an hour's standing, put through a fine sieve into the barrel in which the finished grease has to be sold. The sieving wants constant supervision to see that the lime and petroleum pass through together, so as to form a uniform mixture in the barrel. This is secured by skillfully manipulating the stuff in the sieve with a piece of wood. The next thing is to put the coloring matter, if any is used, into the barrel, then the naphtha dregs, if any, and then any gypsum or other solid mineral filling that may be required. The whole mass is then diligently mixed and stirred, and the rosin oils are run in in a thin stream, the stirring being kept up without intermission all the time the oil is going in. As soon as the mass is too thick to stir, the process is finished, and this does not take very long. The amount of rosin oil required cannot be calculated beforehand, as it varies so greatly in composition and properties, and care must be taken to stop running it in as soon as possible, as it is by far the most expensive ingredient of the grease. If, on the other hand, too little rosin oil is used, the grease will have no consistency, and will have very little value as a lubricant. The exact consistency to be aimed at is about that of butter, but it can only be exactly judged after considerable experience.—Chemische Revue Uber Die Fett Und Harz Industrie, translated by Oils, Colors & Drysalteries.

Utilization of Waste.

(Continued.)

COTTONSEED OIL INDUSTRY.

Closely allied to cotton manufacturing is the cottonseed oil industry, in which there has been a great revolution within late years in the utilization of the cottonseed, in obtaining most valuable commercial by-products, that were at one time allowed to go to waste with the seed in the form of manure. Cottonseed was a garbage in 1860, a fertilizer in 1870, a cattle-food in 1880, and a table food and many things else in 1890.

The manufacture of cottonseed oil and all of its resultant by-products furnishes one of the best examples of the development of a business based upon the utilization of a waste product.

The seed itself was for many years a waste product. Now it is manufactured into many useful articles. In addition to the oil, the meal and hulls are an ideal cattle-food.

One of the principal uses and development of cottonseed oil contingent upon the improvements in refined methods in the past decade is that of the manufacture of lard compound—a mixture of lard, oleo stearin, and refined cottonseed oil—making a most palatable and economical food. Another product of cottonseed oil, white cottoline, is a mixture of oleo stearin and specially processed cottonseed oil, making, perhaps, the highest development of cotton oil as a food product.

Cotton oil is also used in the making of salad oils packing sardines, in the oleomargarine industry, for miner's burning oil, cathedral burning oil, tempering oil, oil for heavy tool-cutting machines, mixing with putty, and, while not exactly a drying oil, yet for rough painting the crude oil can be and is used to a considerable extent. The cheapness of cotton oil compared with other fats, as well as its excellent soap-making properties, has caused it to be largely used by soap makers, both in America and abroad. It is also used in the manufacture of washing powders. Cottonseed oil is used today to a great extent by bakers. It is also used as a substitute for olive oil. Chemists and physicians now recognize cotton oil as a high-class food product.

In the refining process there is produced a loss amounting on an average to about 10 per cent. of the crude oil. This forms an important by-product of the cotton industry. This substance is known as soap stock, or foots. It has a fat acid content of from 40 per cent. to 50 per cent., and is composed of free oil, coloring matter of the crude oil, and soap caused by saponification in the process of refining. It is used in making wool-scouring soaps and cheap grades of laundry soaps. It makes a most excellent soap. There is also produced from this substance glycerin, candle stock, olein, still pitch, etc. The number of uses of this last, though by no means least, by-product of the cotton oil industry emphasizes the many uses to which this oil and its various products are put. It is of course impossible here to elaborate upn these, or even to fully enumerate them.

CORN OIL.

Corn oil is a valuable by-product of breweries, distilleries and starch works. It is adapted for illuminating purposes, and the claim is made that it may be advantageously used for dressing wool, and also as a machine oil, and in the manufacture of soap. It might, in certain cases, be applicable as a lubricant, its low acidity and little tendency to deposit solid matter or to "gum" being properties that recommend it for this purpose.

Donard and Boulet, at their works at Bapaume-Les Rouen, France, have treated during the last seven years about 28,000,000 pounds of corn cake, from which 7,700,000 pounds of oil were extracted. Corn oil is the most valuable product obtained from the corn kernel in the manufacture of starch, being worth more than the main produets—starch, glucose, or grape suger. Corn oil can be treated with sulphur (vulcanized), giving a product similar to rubber, which is used to mix with rubber goods. The oil itself is used in paints. It is a non-drying oil, very stable, and does not become rancid. The characteristic taste and smell are eliminated through refining. Seventy-five to 80 per cent. of this oil made in the United States is exported.

The maximum daily production of corn oil in the United States is about 275,000 pounds, worth $16,000. The value of the by-product, feed and oil, are about 20 cents per bushel of corn.

Candles in Persia.

According to a report from the Belgian legation at Teheran, there is a great demand for candles in Persia, particularly in those parts of the country where petroleum is not so much used as in the north. Although street traffic is practically forbidden after 10 o'clock at night, life in the houses is very active. Persians are fond of making a great show of lights on every possible occasion, and employ candelabra very largely. During the months of Ramazan and Moharem (the national feasts of rejoicing and mourning) the greater portion of the people sit up late in the evenings, and then the prices of lights go up. The custom house statistics for the year 1900-1 show that of the total importations of all kinds of candles, including night lights, one-fifth came from Great Britain. In Northern Persia, Russian candles are used principally. In Teheran, however, Belgian and Dutch candles are sold at a price not much higher than the Russian. This is owing undoubtedly to exceptional circumstances in the matter of conveyance. For instance, the merchants at Ispahan and Kermanshah often take advantage of a caravan short of freight, to have their goods carried at a very low rate. In the bazaar at Teheran there are, among others, two Belgian and one Dutch brand of candles, the last with labels in Turkish; all these are packed in parcels about 8 inches long, containing six candles, and they are sold at about 7½d. The Russian candles, however, which are about 11 inches long, have a readier sale, the retail price being about 10d. per packet. There is no doubt that Southern and Central Persia offers the best markets for candles, but these should only be shipped in the autumn, as otherwise the immense heat is destructive, not only to ordinary candles, but even to the so-called tropical kinds.

Oil of Bergamot Leaves.

Dr. Gulli writes in the Chemist and Druggist that the oil of bergamot leaves has been distilled for several years in Calabra, being put on the market as oil of petitgrain, or used to adulterate the oil of both bitter and sweet orange flowers. This adulteration, however, is easily detected, he observes, because it alters both the specific gravity and the optical rotation, and increases the linalyl acetate percentage of pure oils. "The yield of the oil is limited; 100 kilos of leaves give only 150 grams of oil. The pure oil of this season has a specific gravity of about 0.871 to 0.873, an optical rotation from + 25° 30′ to + 26°, and an ester content, calculated as linalyl acetate, of about 32 to 34 per cent. It is soluble in 90 per cent. alcohol (1 : 1). It contains methyl anthranilate. The distillation of this oil is only carried on to a limited extent, and takes place between February and April, at the time of pruning, the amount of the production per year varying according to demand. It may be calculated at about 20.25 kilos. The oil is rarely pure; turpentine oil is often distilled together with bergamot leaves, and very often into the still leaves and young saplings of bitter orange are added. Adulterations are extensively practiced with the addition of peel essences."

Ylang-Ylang.

The *Pharmaceut. Zeitung* brings a report, based upon English sources about the cultivation of the ylang-ylang tree (Cananga odorata). Its spread is very extensive south of Manila, and is planted from seedlings about twenty feet apart. After several years the first flowers appear; these develop at all seasons,but especially between July and December. One tree often bears as many as 45 kgm. of flowers. The latter are distilled in a very primitive way, about 35 kgm. yielding one English pound (=456 gm.) of oil. The first quality has a yellowish color and a slightly empyreumatic odor. Java, too, produces small quantities of oil of ylang-ylang, but this is less valuable than Manila oil, which is used by perfumers and soap-makers.

Doctor: "There's nothing serious the matter with Patsy, Mrs. Mulcahey. I think a little soap and water will do him as much good as anything."

Mrs. Mulcahey: "Yis, docther; an' tell me, will Oi give it t' him befoor or afther his males?"

Cuba wants to increase the duty on common soap 150 per cent., probably with the idea that luxuries rather than necessaries should bear the burden of government. —Albany Times.

A Candle Story.

The mention of the old tallow candles and snuffers recalls a story which I first heard long, long ago. It may have a chestnut-like flavor, but it may be new to some. A young student occupying the pulpit of a Yorkshire Methodist church announced as his text, "I am the light of the world." He gave it out in a pompous and confident manner. A second and a third time he repeated it still more pompously. The style was too much for an old veteran sitting in the front row of the gallery, who exclaimed in quiet but sarcastic tones, "Maybe thou is, but thou wants a snuffing badly."

Effective Weapon.

The desparate hobos, wild with rage at the refusal of the farmer's wife to give them a square meal, were about to storm the kitchen, heedless of the missiles the angry woman was throwing at them, when one of the gang stooped and picked up a small object that had struck him in the face.

"Run fur yer lives, fellows!" he gasped. "She's t'rowin' pieces o' soapstone at us!"

"Barnum wasn't so very far wrong when he declared that Americans like to be humbugged," continued the C. P., after a moment's pause. "A druggist friend of mine in St. Louis bought a lot of toilet soap at a great bargain some time ago. He piled his windows full of it and labeled it a bargain at three for 10 cents, which it was. Nobody seemed to want any soap. He tried it again and again and was still long on soap. Last week he passed a clothing store, and saw some suits marked: 'Former price $15, now $10.' He saw the point, raked out that batch of old soap and dumped it in the window with the sign: 'Former price 15 cents, now 3 cakes for 25 cents.' The public simply couldn't get enough of that soap. Within a week the last cake was gone."

USE OF CHRISTIAN NAME.—Holding as a basis for its opinion that the surname Smith does not identify an individual in a New England town, the United States circuit court for the district of Connecticut (112 Fed. Rep. 998) refused to restrain Welcome A. Smith from using his name on labels for soap manufactured for him, at the suit of Lever Brothers, Limited, Boston Works, who had expended large amounts of money in advertising another soap designated as "Welcome" soap, the word being registered as a trade-mark. The court, however, held that the use by defendant of the word "Welcome," segregated from the surname, or in larger type or letters than the surname, or so located as to admit the inference that the soap is "Welcome" soap, manufactured by A. Smith, should be restrained.

Geese That Lay Golden Eggs.

Once upon a time there was a promoter who owned a common, everyday goose who laid the usual, ordinary goose eggs. He conceived the scheme of syndicating the goose on a gold egg basis and proceeded to do so.

He informed the trusting public that soon his goose would lay an egg of gold each day, and offered for sale stock in the Golden Goose Egg Company, limited, at bedrock prices. There was a wild rush for the stock, and the promoter suddenly found himself wealthy.

He continued to sell the stock as long as there were buyers, for he did not want to kill the goose that laid the egg. His goose continued the same ordinary fowl as before.

Moral.—There are featherless geese that lay golden eggs.—New York Herald.

Tommy—"Say, pop, what is a wash drawing?"

His Pop—"A picture to be used as an advertisement for a new brand of soap."

QUESTIONS AND ANSWERS.

In this column we shall print questions of general interest submitted by subscribers and invite replies to the same from our readers, which will be printed in the next issue of this paper.

QUESTIONS.

QUESTION No. 29: What machinery and process is needed to recover the fat where soap is used in large quantities? N. K.

QUESTION No. 30: Other things being equal, does castor oil yield as much soap, pound for pound, as tallow? Does it require more soda for saponification or what is the reason of soap made with the help of castor oil being greasy? M. I.

ANSWERS.

To QUESTION No. 26: There is no process that will successfully deodorize some fish oils, though a great many have been tried. The several methods used for clarifying different oils also remove more or less of the odor, according to the nature of the oil, as the treatment with strong lye, alum, salt water, etc. The addition of some rosin in soap making, though not much in vogue in the enquirer's country, overcomes the odor to quite an extent.

To QUESTION No. 27: No reply to this question having been offered, we call attention to it once more.—Editor A. S. J.

To QUESTION No. 28: Corn oil offers no special difficulty to cold process saponification; it is not particularly better nor particularly worse in this respect than the ordinary run of fats. It contains rather more than ten per cent glycerine.—D. H.

ANSWERS IN BRIEF.

F. & Co., of Pa.: The address of the Weiner Seifensieder Zeitung is at Vienna, Austria; that of the Seifenfabrikant is at Monbijouplatz 3, Berlin, Germany.

W. D. of Pa.: Foot presses and soap dies are made by Houchin & Huber of Brooklyn; the Hersey Mfg. Co. of South Boston. Dies are made by Mooney & Bueter of Chicago and William Schridde of the same city. See their advertisements in this paper.

D. R. of Ohio: Soap colors and prepared perfumes are sold by Fries Bros. of New York. For single essential oils write also to Clayton Rockhill of New York.

G. E. of Ill.: You apparently misunderstood the word "Fettseife:" it signifies according to trade usage a boiled and milled soap, the word being derived from the large percentage of fatty acid in such soaps.

PATENTS AND TRADE-MARKS.

The following list of recent Patents and Trade-Marks is reported by W. G. HENDERSON, Solicitor of American and Foreign Patents and Trade-Marks, Norris Bldg,, Washington, D. C. A copy of any of the following will be furnished by him for 15 cents.

PATENTS.

705,067. Soap cutting and spreading machine. Timothy Gaynor, Jr., assignor of four-fifths to R. G. Harseim and S. M. Gusdorf, Indianapolis, Ind.

TRADE-MARKS.

38,687. Soap. The word "Lemola." Frank M. Coulter, Los Angeles, Cal.

706,919. Soap press. John L. Foster and R. L. Murdock, Avalon, Pa.

38,746. Cake toilet soap. Frank M. Coulter, Los Angeles, Cal. The representation of a branch of a lemon tree, with lemons, leaves and blossoms thereon.

PRINTS.

549. Title "The Modern Laundress" (for soap). Kaufmann & Strauss, New York, N. Y.

AROUND THE SOAP FACTORIES.

News-items sent us by our readers will find prompt attention in this column

L. H. Mickel is fitting up a grease factory at Franklin, Ind.

The Ezo Mfg. Co. of Akron, Ohio, has been incorporated to make Scouring Soaps. Capital $50,000.

The Florida Cotton Oil Co., at Jacksonville is ereeting soap works in connection with its refinery.

Reports from Wilmington, Del., say that $150,000 have been subscribed toward a soap factory to be built there.

The Fort Smith (Ark.) Oil Mill Co. contemplates adding a soap factory to its establishment.

There are negotiations pending for the removal of the James Armstrong Soap Co.'s plant from Baltimore to Newport News, Va., if local capitalists can be interested sufiiciently in establishing a large factory.

The Oregon Potash Company, a Reno, Nevada, corporation, of which Charles M. Sain is president, owns vast deposits of potash in Southeastern Oregon. The company has recently been incorporated for $10,000,000, and the president of the company is now inspecting the property, acompanied by Dr. E. T. Dumble, geologist for the Southern Pacific Railroad Company.

Early in the month there was spread a report that Swift & Co. had seeured an option on the Minnesota Soap Co., but the rumor was promptly denied by the St. Paul firm.

Wellsville, Ohio, is rejoicing at the prospect of another soap factory there. D. W. Robinson is preparing to enter the field, having a laundry building remodeled for the purpose.

Emil Kaiser and G. M. Ziegenfuss have asked for a permit to operate a slaughter house and soap factory at Winona, Minn. Messrs. Kaiser & Co. at Winona have been old subscribers of ours and we were under the impression that they made soap all this time. At any rate Mr. Kaiser is an old hand at soap-making.

The Packer Manufacturing Co. of Mystie, Conn., have awarded the contract for the erection of a new building to H. Hobart Babcock of Westerly. The factory, which is located on the Groton side of the Mystic

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river, will be vacated and the company move its entire business to the new building which is to be located near the Mystic railroad station, bringing the industry into the town of Stonington.

The new building will be of brick and cover ground 50x150 feet. Work on the structure will begin within a few days and the company anticipates removing before the winter.

The C. Turner Co. of Chicago will erect a new soap-making plant near the stock yards, having secured a suitable site and plans for a $40,000 plant being in preparation.

Maross Jenkins of New York is introducing, along with his soaps, an apparatus called "King Solomon's Automatic Fountain," designed to lighten the labor of washing clothes by utilizing the current set up in water by the act of boiling. We wish him success with it.

Reports are becoming louder and louder that the three large Chicago packing houses of Armour & Co., Cudahy Packing Co., and Swift & Co., are to be amalgamated. Denials are also beginning to turn up.

The Ottawa (Ont.) *Citizen* says that there is likely to be a new industry in Hull in a short time, as Mr. T. Viau is negotiating for the sale of his property in Eddyville to a Montreal firm, who, it is said, wish to establish a fancy soap factory in the city. The deal is said to be almost concluded.

Incorporated: The Forest Manufacturing Company, at Jersey City, N. J., to manufacture a product from soap root. Capital, $100,000. Incorporators, E. V. Reiss, G. A. Hamilton and W. F. Perry.

W. A. Ormsby will manufacture soap and by-products from ashes at Boyne City, Mich.

The Beal Manufacturing Co., Falmouth, Mass., capital $100,000, has been incorporated to manufacture soap, washing powder, etc.

The Atlanta Pharmacal Co. has been incorporated at Atlanta, Ga., to manufacture perfumery and medicines. Capital, $5,000. Incorporators, C. S. Morse, H. Preiss and R. F. Watson.

The Buffalo *Enquirer* says: According to plans filed in the Bureau of Buildings, the Larkin Soap Company is contemplating the expenditure of nearly a quarter of a million dollars on new buildings. One set of plans for the new pottery plant to be made a part of the big soap industry. It will cost $116,000, regardless of the furnishings and machinery, which will undoubtedly cost equally as much if not more. The pottery plant is to be erected at the northeast corner of Hayes Place and Seneca Street. The buildings constituting this plant will be erected by B. I. Crocker, who has the contract.

Plans were also filed for the erection of a big power house for the soap plant. This is to be built at Larkin and Seneca streets, costing $136,000. It will be of brick, two stories in height, 120x256 feet in dimension, and is to have a brick smokestack 228 feet high, 24 feet in size at its base. Charles Berrick's Sons will erect this plant.

The building formerly occupied by the James Armstrong Co. of Baltimore, occupying two-thirds of a block, have been acquired by a firm of manufacturing chemists, who will use it for drug sundries and spice manufacturing.

Charles A. Sercomb of this city, while not a politician in the usual sense of the word, has made quite a reputation as a good stump speaker and an enthusiastic Republican.

The Puck Soap Co., at present in the hands of a trustee, may be bought by Des Moines and Kansas City parties. Lack of funds for buying materials needed to keep the plant going is given as the cause of the embarrassment, the total liabilities amounting to $40,000 and plenty of unfilled orders being on hand. Local rumors have it that Peet Bros., together with a wholesale grocery company and a packing house, may become interested in the concern.

On the occasion of a visit of the Society of Chemical Industry to the soap factory of Lever Bros., at Port Sunlight, the following observations were made:

The business was started in 1886 with a production of 20 tons per week. In 1889 the factory in Port Sunlight began operations, making 800 tons a week at the time, which has since been increased to 3,000 tons a week. The area covered is 220 acres, of which 51 are occupied by factory buildings and the rest by workmen's cottages, etc. The number of employes is about 2,500. The dock has a frontage of 1,400 feet. The boiling is done in two rooms holding 54 kettles each. There are 2,200 frames and 13 steam presses in use. In addition there are separate departments for scouring and toilet soaps, and also card board and wood box factories and two large laboratories. Lastly, the proprietors have erected schools, dining rooms, club rooms and bathing establishment.

While the above report does not say so, our subscription list tells us that there is alo a library connected with the works.

LIBRARY

Latest Additions to Our Brand List.

344 Home Soap Co., N.Y.
345 Columbia Ref'g. & M'f'g Co. Ltd., New Orleans.
Antillia 2
Beauty Belle 115
Bell's Brown 343
Blue Chip 340
Blue C oud 2
Blue Coco 340
Blue Family 340
Blue Monday 340
Blue Olive 340
Chlorine 340
Cleaneasy 286
Dactylis 11
Dermicura 327
Empress Eugenie 115
Eucryl Eucryl Ltd., Hull, England.
Evergreen 286
Facine 340
Fairbank's Primrose 2
" Scouring 2
" German Fam. 2
" Glycerine-Tar 2
" Mottled Germ'n 2
" Olive 2
" Navy Blue 2
Federal Family 1
Floral Feast 115
Flannel 2
Flip 345
Fragrant Honey 2
Geyser 343
Gold Seal Soap Flour 340
Green Olive Chip 340
Green Palm 340
Green Seal Chip 340
Gusher 340
Hard Maple 155
Iroquois Maiden 115
Jewel 2
Kazan 343
King Solomon's Rock Oil S. Mnross Jenkins, N. Y.
Lakeside (Scouring) 2
Limberine, E. A. Warren, St. Paul, Minn.
Lion 2
Long Shot 345
Madeira 16
Madeira Almond Cream 16
Madeira Cucumber Cream 16
Madeira Lettuce Cream 16
Madeira Olive Cream 16
Marveline 300
Mentholatum Corn Oil S. 169
Michigan Family 2
Next-To, Phoenix Chem'l Co. New York.
Palm Oil S. Powder 340
Palm Soap Flour 340
Passion Rose 298
" Violet 298
" Pink 298
" Lily 298
Peach Blue 340
Perfecto 121
Plantol Lever Bros., Limited Port Sunlight, England.
Premium, Davenport (Iowa) Soap Co.
Premium W. Powder, Davenport (Iowa) Soap Co.
Preventionette, Willard Chemical Co., Malden, Mass.
Rex Cremo 340
Rex Family 340
Rex Liquid Soap 340
Rockford Scouring 2
Santa Rex Castile 2
Sentinel 340
Sorosis 340
Star Mottled 2
Success Scouring Sand Soap Tacony Soap Co., Phil'a.
Sweet Blossom 2
Trash Mover 286
Twin 2
White Fairy 2
White Pine Castile 344
Windsor 2
World's Fair 2
Yellow Palm 340
Credential Shaving Stick 16
Vestal Lilac 16
Vestal Carnation 16
Durango Best, Durango (Colo.) Soap Co.
Napthol 340
N xlabor 340
Ilo-Ilo 340
Oxolive 340
Oxigen 340
Rexolene 340
Rexolive 340
Palmo 340
Pen Yen 340
Pony Up 340
Two Jacks 340
Anty Up 340
Frog 340
Jack & Jill 340
Yellow Dog 340
Tode 340
Billy-Goat 340
Horse Oil Harness 340
Noxwork 340
Cloths Pin 340
Cloth Pin 340
Jack Pot 340
Nolabor 340
La Mariposa 54
Angelus 54
Idyllwild 54
Climax Chip 54
Helix 54
Lasco Napthol 54
Mexicano 54
Parisian Toilet 54
Lemolive 54
Lemola Toilet, Lemola Soap Co., Los Angeles, Cal.

The Markets.

TALLOW.—New York City in hhds. nominally at 6¼c; in tierces 6⅝c; market rather quiet and buyers inclined to hold off; sales of country-made at 6¼ to 6¾c, as to quality. Western sales reported at 7¾c for prime packers and 6 to 6⅛c for city rendered.

GREASE.—Markets rather dull. "A" white, 7¼c; "B" white, 7c; bone and house, 5½ to 6c; yellow, 5¾ to 6⅛c.

COTTONSEED OIL.—Last sales at New York at 40½ to 41c for prime yellow; good off-yellow, 39½ to 40c.

CORN OIL.—5⅞ to 6c; demand quiet.

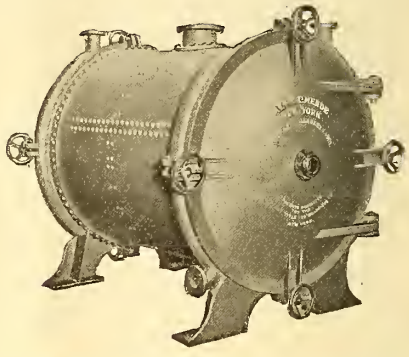
COCOANUT OIL.—Ceylon held at 7 to 7¼c spot; 6¾ to 7⅛c asked for stock to arrive in September; Cochin, 8⅜c asked for spot, and 8 to 8¼c for supplies under way.

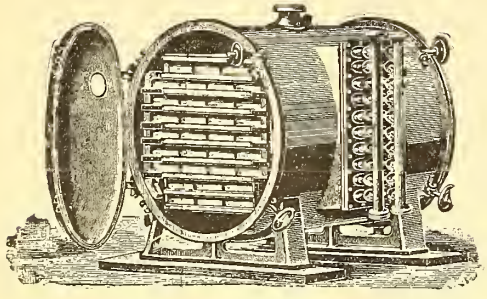
OLIVE FOOTS.—5¼ to 5½c for spot, as to quality; 5⅝c asked for goods under way.

PALM OIL.—5⅜ to 5½c for prime red oil; 5⅝ to 6¼c for Lagos as to grade. Palm Kernel oil 6⅝ to 6¾c.

RED OIL—Little supply and only a moderate demand; 6½ to 6¾c asked for Saponified.

MENDE'S VACUUM DRYING CHAMBERS





Avoid oxidation, burning and melting of material.
Have a very large drying capacity.
Occupy but a small space and need very little steam.
Accomplish the drying of materials in a few hours, where it otherwise requires many days or weeks.

Laboratory Vacuum Drying Chambers

Suitable for experimental work and for practical drying tests previous to ordering large machines.

ALEX P. MENDE, Patentee and Builder

Office, 125 East 62d Street, New York.

SUPPLEMENTARY LIST
OF THE
BRANDS OF SOAP MANUFACTURED IN THE UNITED STATES
Including also the Brands of Foreign Manufacture Registered as Trade-Marks in this Country.

NOTE: This list is compiled with the greatest possible care, but the publisher does not assume any responsibility other than to correct and to complete the list according to data obtained from official sources or furnished by the trade. Brands registered in the patent office as trade-marks or labels are given with the name of the party registering same. Brands or names marked * are those which were found to be used by more than one firm or the owner of which could not be ascertained. ☞ SEE THAT ALL YOUR BRANDS ARE ENTERED IN YOUR NAME.

54 Los Angeles Soap Co.
318 Petrolia Mfg. Co., New York
319 Navy Condensed Soap Co., New York
320 Minteaux Soap Co., Cincinnati, O.
321 Bell & Bogart Soap Co., New York
322 Kirchman Co., Chicago.
323 W. H. Judd & Co., Hamiltou, Ont.
324 Graham Bros. Mfg. Co., St. Joseph, Mo.
325 Binghampton (N. Y.) Soap Co.
326 Beunington (Vt.) Soap Co.
327 Ohio Mfg. Co., Cincinnati
328 Acme Soap Co., N. Y.
332 Michigan Soap Works
333 Speicher & Rees Co., *Wabash, Ind.*
334 Remmers Soap Co., Cincinnati.
335 F. Richards Laundry Supply Co., New York.
336 United States Soap Co., Cincinnati.
337 Swift & Co.. Chicago.
338 Texas Soap Co.
339 Simpson's Soap Mfg. Co. Newark, Ohio.
340 J. P. Rex, Toledo, Ohio.
341 Monahan Antiseptic Co,, Chicago.
342 Mission Soap & Candle Works, San Francisco.

A Better 90
Acme Face Cloth 328
Acme Sponge 328
Admiral Dewey 331
A. H. G., *Amalga Soap Co., Brooklyn, N. Y.*
Aladdin's, *A. R. Brandly, New York*
Alfa, *Oettinger Co., New York.*
Almond Cream 16—331
Amalga High Grade, *Amalga Soap Co., Brooklyn, N. Y.*
Amazon, *South Bend Soap Co.*
American Girl 115
American Housewife, *Reardon Soap Co.*
American Green Oil S. 341
American Green Oil Toilet Soap 341
America's Best Family, *Aurora, (Ill.) Soap Works.*
American Queen 8
Ammoniac-Turpeutine 58
Amonia 302
Anco Tar 320
Anglo-American 331
Anglo Saxon 331
Angora Borax 342
Anthea. *Roger & Gallet, Paris, France*
Anti-Freckle Buttermilk 191
Auti Rub, *R. E. L. Johnston, Denver, Colo.*
Antiseptic Cinchonia 320
Auti Trust 294
Anvil Pumice 54
Argyle Chips 207
Arkansas Traveller 191
Artisan 2
Ascage 4
Atlas W. Powder 322
Auto, *Mark Myers, Philadelphia.*
Avalon 54
Aurora Belle, *Aurora, (Ill.) Soap Works.*

Baby Talcom 191
Balsam and Arnica 334
Balsam Cream Shaving 95
Battleship Maine 191
Beeswax, *H. Newman, Aurora, Ill.*
Bell Cow 321
Bermuda Star, *Rohe & Bro. New York, N. Y.*
Betsy Ross *Michigau Soap Works.*
Big Boss 308
Big Deal 286
Big Piece 120
Big Spring Soap, *Attalla (Ala) Soap Co.*
Bill the Kicker 90
Black Bear 61
Black Cat Petroleum, *New York Petroleum Soap Co.*
Black Jack, *Crystal White Soap Co., Des Moines, Iowa*
Black Jack Tar, *Clinton Soap Co.*
Black Hawk, *Warnock & Rat ston, Rock Island, Ill.*
Black Kid Pine Tar 302
Blue Boss. Chickasaw Soap Co., Spartanburg, S.C.
Blue Grass Belle 334
Boh Lee 91
Bocabelli Enos F. Jones Chem Co., N. Y.
Bohemian Mottled 322
Bohemian-Polish 322
Borinquen, *Jos. S. and Thomas Elkington, Philadelphia*
Bouquet des Champs 191
Bouquet de Noel 16
Bozena 322
Brag 38
Bridal Veil Borax 342
Brighton Family 321
Bristo 325
Brown's Glycerated Ever Healing Tar Soap 332
Brown Wax 58
Brown's Original Pine Tar Brown Soap Co., Dayton, O
Brown's Medicated Tar, Brown Soap Co., Dayton.
Bull Dog Tar 328
Burlight, *Burtington Mfg. Co., Chicago*
Buttermilk and Rosewater 334
By Jingo, *Alsfelder, Bardes & Havlin, Cincinnati, O.*

C. C. 56
C. O. D., *Chas. W. T. Davies, N. Y.*
Cairo Family Soap 120
Cairo Mottled German 120
Cake Walk, *Louisville S. Wks.*
Califia 54
California Poppy 54
California Violet 54
Calla Lily Borax 54
Calumet Family 63
Camelia 336
Candy, *James Tulloch, Chicago, Ill.*
Canon Ball 294
Carbolic Remedy 320
Carbolic White 290
Cascarilla 334
Castar, *Walter Eveleth, New York, N. Y.*
Castile May Bell. 333.
Caustic Potash Whale Oil So'p No.3. 91
Caustic Potash Whale Oil Tobacco S. No 6. 91
Celery Cream 16
Centaur 327
Cents and Sense, *Dreyfuss Soap Co.. Chicago.*
Century Borax, *Belknap & McCann, Newburgh, N. Y.*
Ceske Jadrove 322
Ces-Polskie 322
Champion of the West, *J. T. Evans, Cypress, Ky.*
Cheerful 17
Chehchska Midla, *Aurora, (Ill) Soap Works.*
Chic 38
Chicago Oleine 2
Chinaman's Secret. R. M. Ferguson, Grand Rapids.
Chispa 342
Cleanall 336
Cleaneasy 286
Cleaner Right, *John Shepard, Providence, R. I.*
Cleanola, *Marinette (Wis.) Soap Co.*
Coal Oil Johnny 321
Coal Oil Johnny Tar 321
Cocoa Buttermilk 324
Cocoa Milk, *Wm. P. Jaus & Co., Indianapolis.*
Cold Cream Shaving 334
Cold Cream Honey 95
Colonial Borax, *Colonial Soap Co., New York.*
Colonial Chunk, *Colonial Soap Co., New York.*
Colony Bouquet 16
Columbine 8
(Comet) for Canada: *D. Richards, Woodstock, Ont.*
Comfort, *Comfort Powder Co., Hartford, Conn.*
Comfort. *Shreveport Cotton Oil Co.*
Commander 16
Commodore, *Weideman Co., Cleveland, O.*
Common Sense 325
Complexion Bath 41
Congo 336
Corouado 54
(Coronet) 323
Cosmopolitau Glycerine 16
Cotto, *Globe Refining Co., Louisville, Ky.*
Court, *Court Perfumery Co., New York*
Crab Appie Bloom 301
Cracker Jack 35
Creamine Witch Hazel 191
" Carbolic 191
" Tar 191
Creamine Shaving 191
Cricket 117
Crow Tar 304
Cruiser 16
Crushed Lilac 191
Crushed Lily 191
Crushed Heliotrope 191
Crushed Roses 191
Crushed Violets 191
Crystal Rose, *Crystal White Soap Works.*
Crystal White Lace, *Crystal White Soap Works.*
Crystal White Tar, *Crystal White Soap Works.*
Cuba 63
Cucumber Cream 16
Cudoma 308
Curea 191

Davies' Silver Soap Powder, *Davies Mfg. Co., Fort Brook, Fla.*
Daily Topic 16
Dayton Belle, *Tar Soap Pioneer Co., Dayton, O.*
Del Gloria Castile 328
Delicia Boquet 16
Deltaso, *Delta Mfg. Co., St. Louis, Mo.*
Dermic 16
Dewey 286
Dew of Violets, *Wm. P. Jaus & Co., Indianapolis.*
Diamond C 308
Diamond H Chip 120
Diamond Toilet 54
Diamond W. Chip Soap 54
Dipper 72
Dirt Eater 191
Dixie Family 330
Domina (laundry soap), *Ford, Eaton & Co., Cincinnati, O.*
Dominion 16
Dominion Buoquet 16
Dominion Cream Glycerine 16
Dominion Elder Flower 16
Dominion Floral Houey 16
Dominion Oat Meal 16
Domino 16
Dr. Fauvor's Carbolic 334
Dr. Janck's Animal, *Clinton Soap Co.*
Dr. Janck's Medicated, *Clinton Soap Co.*
Dr. Janck's Physicians, *Clinton Soap C3.*
Dr. Raub's Egg White, *Charles F. Miller, Reading, Pa.*
Dr. Stuart's Antiseptic Soap 95
Dr. Yerkes Medicated 320

Early Bird 29
Earth 120
East India Medicated 334
Easter Lillie 191
Eastman Springs Toilet. *C. G. Cribbs & Son, Benton Harbor, Mich.*
Easy Task, *Hewitt Bros., Dayton, O.*
Easy Task Chip—Hewitt Bros Soap Co., Dayton, Ohio.
Eclectric 63
(Eclipse) for Canada: *John Taylor & Co., Toronto*
Eden Elder Flower 191
Egyptian Violets 115
Egg White, *Charles F. Miller, Lancaster, Pa.*
Eighth Wonder Tar 191
El Diploma 16
Electric Mottled German 120
Electric Spark 304
Elysian Violet 54
Emolia 298
Empire Lily, *Lazell, Dalley & Co. New York.*
Empire Orchard, *Lazell, Dalley & Co., New York*
Empire Rose, *Lazell, Dalley & Co., New York*
Etna 63
Enlalia 96
Evangeline 16
Everybody 330
Excelco, *Amer. Soap Mfg. Co., Philadelphia.*
Export 38
Extract Rose & Glycerine 9

Fairy Brand Condensed S. 319
Fancy Laundry 63
Ferns and Flowers 320
Fifi 318
Firm Friend 342
Flag 96
Floater 120
Floating Olive 81
Floating Tar 71
Floral Honey 16
Floriano Castile 294
Florina 16
Florina Lilac Blossom 16
Florina Pink Blossom 16
Florina Tea Rose 16
Florina Wood Violet 16
Florodora 16
Forex 340
Forest Bouquet 16
Formaldic, *Clark M. Eggleston, New York*
Fragrant Bouquet 301
Freedom 298
French Made 8
French Maid 8
Fruitano, *Leo S. Samuel, Newark. N. J.*
4 Bells 308
4 X High Grade 338
4 X Safety Toilet 338

Gable's Cream Glycerine 334
Geranium Bouquet Glycerin 334
German's Family, *Aurora Soap Works*
Get-There 330
Getty's New Laundry, *Stewart Bros., Council Bluffs, Ia.*
G. I. Y. 320
Gipsey Queen 8
Gladiator 16
Gleamine, *J. W. Alton, Cleveland, Ohio*
Globe Castile 38
Gloriana, *Court Perfumery Co., New York*
Golden Oleine 337
Gold Leaf, *Marinette (Wis.) Soap Co.*
Gold Medal Glycerine 334
Gold Mine 120
Gold Star 48
Gold Standard 8
Gold Standard Soap Powder 8
Golden Cream 320
Golden Era, *Maple Leaf Soap*
Golf 340
Co., St. Ioseph, Mo.
Good Friend *Michigan Soap Works.*
Good Health Laundry 53
Gotham Chips 335
Grab, *Grossfeld & Roe, Chicago*
Grand Bouquet 16
Grape Fruit 191
Greater New York. *C. J. Bentley & Co., New York*
Green Plum 337
Gun Boat 38

Hanzy Pauzy 294
Happy Moments 38
Hard Pan, *South Bend Soap Co.*
Harlequin, *Wm. V. Blissett, New York, N. Y.*
Hawaii 70
Heartsease 54
Heather of the Links, *Ladd & Coffin. New York*
Heavy Weight 70
Helmet 326
Henderson's Laundry S. 320
Hesperus, *J. D. Jowers, Smith's Fork, Tenn.*
High Ball 263
H O, *Hornby's Oatmeal Co., New York*
Ho-Ax 340
Home Toilet 54
Honor Bright 53
Hood's Medicated, *Chas. I. Hood, Lowell, Mass.*
Housekeeper 342

Iceberg, *Burden Co., Newark, N. J.*
Idol 58
Independent 38
Ingleside 342
Iris Blanc 95
Irish Maid 8
Italian Castile 191
Ivory Paste 10
Ivory Washing Powder 327

Jack Rose, *Wm. H. Bogart, N. Y.*
Jasminia 95
Jasmin d'Amerique 16
Jas. Henderson's Washing Compound 320
Jerena 95
Jet Neatsfoot Oil Harness 53
Johnson's Washing Powder 63

Kawa-Cura 332
Key 298
Kickapoo. *Crystal White Soap Co., Des Moines. Iowa*
Kicker, *E. B. & C. Smith, Chicago.*
King Cole's 321
King Dodo 120
King of the Laundry—Hewitt Bros. Soap Co., Dayton.
Klondike 16
Klondike Golden Esgle W. Powder 290

Knickerhocker 329
Kre-Mo 95
Kudos, Chickasaw Soap Co. Spartanburg, S. C.

La Bonita Castile 328
Ladies' Favorite Lily 324
Ladies' Toilet 304
La Diploma 16
La Fautasma 16
La Favorita 16
La Favorita Castile 328
La Gloria 16
La Juliette Musk 16
La Juliette Peau d'Espagne 16
La Juliette Sandalwood 16
La Juliette Ylang Ylang 16
Lapwing A. Geissert, Phil'a.
Laune Creme No. 1100, *Royal Soap & Chem. Co. Pittsburgh*
La Paloma 54
Lasco 54
Lavasa, *F. W. Turner Jr., Boston*
Lavender Balm 301
La Viola 191
Leather 114
Le Beau Monde 95
Leon Lihert, *A. F. James, New York*
L'Heliotrope d'Amerique 16
Liebig's White Tar 321
Lighthouse 298
Lilas Blanc d'Amerique 16
Lilac Blossoms 302
Lilax 302
Lion Castile 38
Lion Washiug Powder 302
Listerol Alma F. Wooster, Norwalt, Ohio.
Little Francis, *Electric Soap Co., Chicago*
Long John 334
Log Cabin S. Powder 117
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M. & M. Cocoa 342
M. S. & C. W. 342
Madison Square, *Colonial Soap Co., New York.*
(Maguet) for Canada: *J. T. Logan St., John, N. B.*
Magic City 308
Maiden Queen 342
Maid o' the Mist 53
Maine 302
Major Domo 16
Ma Lady, *Wm. H. Bogart, N. Y.*
Malena, *B. F. York, Warrior's Mark, Pa.*
Manila 70
Manilla Bouquet 191
(Maple Leaf for Canada: *J. T. Logan, St. John, N. B.*
Mark A. Torrey's Norfolk Cream Laundry 287
Marvel 300
Meadow Violet 332
Medicated Cocoanut 324
Medicated Lemon 334
Merchants' Pure Family, *W. G. Meyer, Jersey City, N. J.*
Miami 327
Milk Weed Complexion, *Wm. P. Jaus & Co., Indianapolis.*
Miners' & Mechanics' 342
Miniature, *Minteaux Soap & Chemical Co., Cincinnati, O.*
Minteaux 320
Miss Bridget's Shamrock 322
Mission 342
Mission W. J. Harvey, Los Angeles, Cal.
Mission Bleaching 342
Mission Borax 342
Mission Globe 342
Mission Olive 54
Mission Savon 342
M'Kenzie's Tar 191
Model, *Texas Soap Co.*
Mohawk 337
Monad 11
Monahan's Antiseptic Green Oil Soap 341
Moon 191
Moonlight, *Maple Leaf Soap Co., St. Joseph. Mo.*
Morning Star 191
Motor, *Motor Soap Co., Rochester*
Mountain Lily 342
Mountain Violets 334
My Wife's 154
My Wife's Scouriug Soap 154

Naua 331
Napfterleen 340
Naphthalene 340
Nase Ceske 322
Nautonly, *Nautonly Soap Co. Newark, N. J.*
Navy Brand Condensed S. 319
Necessaire, *Phoenix Soap Wks.*
Nerve and Muscle 320
New Century, *White & Bagley Co. Worcester, Mass.*
New Era 63
New Era Petroleum, *Jas. S. Price Mfg. Co., New York.*
New Era Solvent, *Wm. Grant, West Orange, N. J.*
New Girl 8
Newman's No-Sweat Medicated *H. Newman, Aurora, Ill.*
Nigger 71
Nip 305
Noodle Chips 120
Norfolk Cream Laundry 287
No Trust 294
Nottaul, *Nottaul Soap Co,. Newark, N. J.*
Noxdirt, *Marinette (Wis.) Soap Co.*
Nugget Alden Speare's Sons Co., Boston.
Nursery Cream 56
Nutmeg, *Wm. E. Scott & Co., Poughkeepsie, N. Y.*

Oakwood, *Alsfelder, Bardes & Havlin, Cincinnati O.*
Odorless Naphtha, *Colonia Soap Co., New York.*
O-Ko Ko, *Marinette (Wis.) Soap Co.*
Old Granada Castile 334
Old Mill 337
Old Vet 290
Oliveua 11
Olive oil Buttermilk 191
Olive Oil Savon 326
Olivine Washiug Compound,
One Second, *One Second Mfg. Co., St. Joseph, Mo.*
Only Standard 199
Opera Bouquet 298
Ophir 332
Oriuda, *Vail Bros., Philadelphia, Pa.*
Orris Bath 41
Ospoto, *E. B. Sutton, New Canaan, Conn.*
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Otto of Violets 334
Our Bohemian 322
Our Finest 54
Our Flag 330
Our Green Bay 304
Our Hero 115
Our Hero 120
Our Jack Tar 326
Our Pusher, *Enterprise Mfg. Co., Chicago*
Our Seuator 90
Our Queen 115
Our Winner 29
Ovalette 77
Oxford 63
Ox Gall Bleaching 308
Ozone Chips 335
Ozone Shavings 335

Pacific Laundry 54
Palma Rosa 95
Palmdale 342
Palm Family 302
Palm Laundry 302
Palm Olive 63
Pan American 48
Paradise 16
Paradise Bouquet 16
Park Hotel 71
Parsons, *E. M. Fowle, Boston Mass.*
Pawnee 308
Pay Day 286
Peach Brand Condensed S. 319
Pearl Lustre Tooth Soap 95
Peek In, *Wm. H. Bogart, N. Y.*
Persian Rose 115
Persian Violets 115
Peerless Compound Soap Powder 154
Petro 318
Petro-Olive 318
Petro-Oleum 318
Petro-Tar 115.
Phonograph 8
Physicians' Universal Toilet, *Phoenix Soap Wks*
(Picture) 323
Pin 191
Pine Apple 334
Pink Carnation 16
Pin-Needle, *Enoch Morgan' Sons Co.*
Polskie Mydlo 322
Porto Rico 70
P atts' Astral 321
Presto 77
Prima Douna 16
Prima-Donua Bouquet 16
Priuceton 16
Princess Acacia 16
Princess Bouquet 16
Princess Hyacinth 16
Princess Mignouette 16
Princess Pansy 16
Prucess Sweet Pea 16
Prosperity Washiug Compound 154
Prudeutial 2
Pure Palm Oil 334
Pure Piue Tar 334
Purgo, *O W. Gollings, Chicago.*
Puriua 16
Pyramid (Wash. P.) 308

Quaker Castile 120
Quaker Tar 120
Queen Esther 16
Queen Luise 8
Queen of Fragrance 16
Queen Olive Castile 35
Queen Violette 332
Queen of Violets 301
Quick Wash 308

Radiant, *Oettinger Co., New York, N. Y.*
Ramoua 54
Red Heart. Conkiing Chemical Co. Chicago,
Red Robin, Conkling Chemical Co. Chicago,
Reduciue, *Max Rink, New York, N. Y.*
Red River 38
Red Wrapper German 286
Regal Glycerine 95
Regal Honey 95
Regal Oat Meal 95
Remmers Dove It Floats 334
,, ,, Heliotrope 334
,, ,, Easter Lily 334
,, ,, Iris 334
,, ,, Lis de Valle 334
,, ,,Pink Carnation 334
,, ,, Violette 334
Remmers Elder Flower 334
Remmer Honey of White Clover 334
Remmers Oatmeal 334
Reuter's Healing Soap, *Geo. C. Barclay, Brooklyn, N. Y.*
Ringer 38
Riviera 16
Riviera Bouquet 16
Riviera Heliotrope 16
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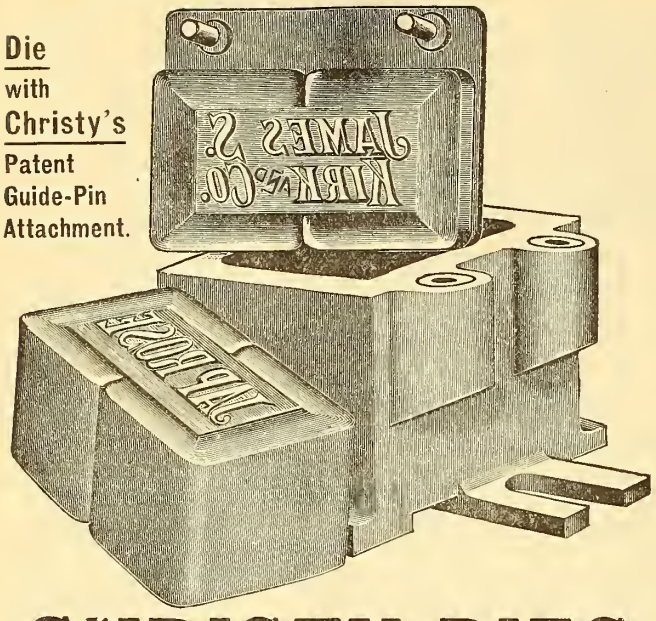
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DR. HENRY GATHMANN, Publisher.
2707 North Ave , Milwaukee.

MILWAUKEE, WIS., October 1, 1902.

VOL. XIII. No. 2.

THE

AMERICAN SOAP JOURNAL

AND

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On another page we print a very interesting letter, including a selection of newspaper reports, on the changing conditions in the rosin interests of this country. It appears from this that within a very little time either the rosin and turpentine operators will have to adopt very different ways of manufacture or the soap manufacturers and other consumers of rosin will confront a great scarcity of this raw material.

The letter speaks for itself and we desire to add only that the writer, Mr. Moulié, gives us credit for something for which in reality he himself deserves the chief credit instead; we refer here to the description of the French method of rosin and turpentine making which we printed in 1891. It was Mr. Moulié who at that time furnished us with the description and the drawings. For a time that article attracted considerable notice. Thus we received a letter from Shotter & Co., naval stores factors in Savannah, Ga., saying that Mr. Moulié's article was the best they had ever seen on that subject. At the same time a gentleman in the South asked for further particulars and besides printing in our issue of June, 1891, a reply to him, from Mr. Moulié, under the caption, "Special on Rosin," there developed quite a correspondence in consequence which never appeared in print and the full effect of which it is impossible to trace. But the subject was kept alive ever since and, a year after, a writer on the Reduction of the Production of Rosin remarked that it seemed "likely that the adoption of improved manufacturing methods would be a surer and more equitable plan than the curtailment of the production."

It is a source of gratification to us to know that the Governor of Florida, who takes a very earnest interest in the matter and who made such a striking speech before the operators has also read the article in the American Soap Journal to which we have referred and has extracted copies from it for future use. It seems evident that after a number of years that article in this paper is destined to play an important part in the naval stores business.

An English exchange says that booksellers are joining the ranks of the present-giving dealers; that paper knives and cakes of soap are given away with each copy of certain works sold.

Since soap manufacturers have in numerous instances given away books with their soap, turn about is only fair play and, if cakes of soap are hereafter to accompany cook books and dime novels, our readers may as well begin negotiations with the publishers for furnishing them supplies.

"Red-handed Jimmy's Favorite Floater" and the "Cook Book's Companion" will then be the coming brands.

The "cutting" of prices by druggists and department stores is a source of perpetual complaint. Thus a Broklyn druggist advertises Packer's tar soap at 8c per cake; Cuticura at 10c; Woodbury's Facial at 10c; Dr. Munyon's Witch Hazel soap at 4c a cake, &c.

Ordinarily the manufacturers of the goods on which prices are cut in this way are supposed to sympathize with the non-cutting dealers and to do all in their power to prevent cutting.

A Canadian soap manufacturer, however, seems to be in favor of encouraging "cutting" of the retail price of his soap and freely advances arguments in favor of selling his product without notable profit. We have quoted him before and now find the following in a Canadian drug paper:

"It is no secret that in many towns in Canada the great popularity of Baby's Own Soap has caused its price to be cut so as to bring new customers to certain stores. Druggists, unwilling to meet this competition, see these larger stores acquire most of their business in "sundries." Why not sacrifice on leaders, to make good on other lines, and avoid sending your customers elsewhere for goods they should buy in your store? These are the true ideas of modern business."

Not a new principle, but one well worth while mentioning again, touching the ownership of brands, is that set forth by the Maryland Court of Appeals in a recent decision. The case was that of a patent medicine firm which sought to protect a trade-mark of a medicine the label of which stated: "The great smallpox and diphtheria cure and preventive. Cures the worst cases without marking, unless already scabbed." The judge said: "Equity will not protect a trade-mark for a patent medicine, the statement on the label of which asserts a falsehood, and being designed to deceive the public."

There are soap wrappers claiming that the soap contained in them will "cure all skin diseases" and some day the owners of these brands will find themselves disagreeably surprised by a similar decision. They had better be warned in time.

It is within the memory of almost every present soap manufacturer in the United States, that this country depended for its alkali, until rather recently, on Europe. At that time—having ourselves to import the needed caustic—we could not well be expected to take the first place among the soap exporting countries.

At present we are all but independent from foreign countries for our alkali; we have our own tallow (which is more than some soap-exporting countries can boast) and we lead in cottonseed oil and rosin; if the soap industry is keeping pace with other manufactures in this country, it seems to be "up to" our friends to capture the world's markets for soap, in order to sustain our reputation.

Furthermore this deponent hath been informed and verily believes that we raise olives beyond actual demand. From the soap manufacturers' standpoint this is not as yet an important item, but it ought to become so.

Last month we received a request for a sample copy of this paper from John Alex. Dowie, Zion City, Ill. If soap making is to be one of the industries of Dowie's heaven, cleanliness will once more illustrate its immediate vicinity to godliness (?)

We have sent the sample copy and expect to have a subscription direct from "Heaven" by return mail.

Our editorial remarks last month contained the statement that "the e aitnessliol-bcfit w-,-f c, (h cmfw cmfwy cmfwn,,.— Since reading that remark over in actual print we have changed our mind on it, and after talking it over with the compositor we have coneluded that cither he or we should retract it. Some otherwise mildly enough intended words change their complexion surprisingly when appearing in cold print.

The United States Minister at Havana has informed the Department of State that the Cuban House has passed the Senate tariff bill. The following increases are authorized:—Stearine, olive oil, 50 per cent.; soap, 100 per cent.; lard, 30 per cent.

We have occasionally devoted some space to the subject "How Soap is Sold." This referred to the selling at wholesale only, and for a change we print the following (from the *Pharmaceutical Era*) on a retail transaction:

"Science, professional ethics and that sort of thing may be all right in the drug business, but it is the ability to sell things that counts, after all," said the large, comfortable man to the thin man beside him, as the car bumped and jerked its way downtown. "A few weeks ago, while out giving my dog an airing, I stepped into

a drug store near my house to get a cigar. A dog and a man always get along together better when they have a cigar. While I was selecting my smoke, the clerk admired my companion, and remarked that it was a pity the poor fellow was so troubled with fleas. Being in a peaceful state of mind, I acquiesced, and before I knew it, was examining a soap guaranteed to kill fleas—some patent mixture of soap, fat and tar, it appeared to be. I foolishly began an argument as to whether plain carbolized soap would not be better. The clerk maintained that his soap was superior, but since the price was the same I could, of course, suit myself. Now, I didn't want any dog soap in the first place. I think a 'few fleas are good for a dog.' They keep his mind occupied. But after I had extolled the virtues of the carbolized soap and the clerk had taken such a friendly interest in my dog and felt so frankly sorry for him, fifteen cents was a small price to pay in order to save my 'face.' After the soap had been wrapped up, I handed the friend of suffering dogdom a quarter. He looked at it a moment, and said: 'I honestly think you would find the other soap more satisfactory. Why not take both for twenty-five cents?" He kept the coin, of course."

"There will be less encouragement than ever this winter to the man who is not inclined to keep clean. Soap of practically every kind has advanced about fifty per cent on account of the increased cost of meat fats. It is said that another substantial raise in the near future will not be surprising to those who are keeping posted."—The Modern Grocer.

We trust this is good news to our readers who, we were afraid, might be themselves surprised somewhat at "another substantial raise."

The War Department calls attention to opportunities neglected by American manufacturers to push their goods in the Philippines and Cuba—especially the former. Although the imports into the Philippines have almost doubled within the last three years, America has profited from this increase much less than have other countries. Thus soap and fertilizers are imported chiefly from Great Britain, France and Spain, candles chiefly from Spain, cosmetics and perfumes mostly from France, and in oils and rosin China leads. The only notable products of which the United States furnish more than do other countries are patent medicines, lubricating oils and varnish.

In return the Philippines furnish large amounts of coprah and ylang-ylang among their other exports.

Years ago there was a time when daily newspapers were not exactly a new invention any more, but when they were sufficiently new that two or three papers published in the East were only just beginning to be referred to as "great" newspapers. The editor of one of these—we cannot recall just which one (such is fame)—was asked one of those days, by what wonderful methods he had managed to build up such a "great" paper, and his recipe was simply: "Get all the news and then make a h—— of a fuss about it." That was in the good old days.

What we really mean to say is that the art of "getting the news and then making a h—— of a fuss about it" has not become a lost art by any means, as witness the great and small yellow journals of this day.

But, no, that is not what we started out to say, either. What we do have on our mind, and what gives us such trouble to get off it, is an old-fogy notion that we can make a good newspaper by a formula of our own, which is: "Get the news and then find out if it is true, before printing it." And this old-fashioned, although we trust commendable, practice produced a difficulty the other day which is the point we are aiming at. Now we are fairly started at last and here is the case:

We read in the papers of a fire which was said to have done considerable damage to a certain soap factory; then we wrote to the owners of the injured factory for a confirmation of the report before printing it on our part. The reply which we received was to the effect that the report as it appeared in the daily papers was much exaggerated, that the fire was only a slight one and that the party in question desired us to make no mention of the occurrence at all, for the reason that "competitors take advantage of the unfortunate manufacturer who meets with casualties of that kind and seem to glory in the misfortune of others."

We hope our correspondent's view is too pessimistic; competitors are not over-nice in their warfare at times, but we cannot get ourselves to think that—except perhaps with very rare exceptions—they would deliberately seek to injure another by taking advantage of a misfortune that has already overtaken him. Indeed, we remember one of the very first occurrences which this paper has ever chronicled—twelve years ago—was the destruction of a soap factory in Boston, where competitors offered the unfortunate victim their manufacturing facilities, to use until he could rebuild. We should like to think that this latter spirit, which prevailed twelve years ago, is still dominant in this and in all other trades, and what is more, we are fully convinced that it is.

We extract the following items somewhat promiscuously from a letter received just as our forms are being made up for the press:

* * *

The September Soap Journal fully sustains your past excellent reputation: "Counting the Cost," "D'Estampes 300 per cent profit article" and your remarks on the ludricrous or absurd proposition of a $10,000,000 soap trust to include one or more of the largest packers, were very amusing.

* * *

It certainly would be most ungrateful to pass unfavorable comment on the editor for letting us know how much profit can be made in the soap business. Furthermore we are indebted to you for indicating the method by which the handsome profit can be gained. I wonder if some of your subscribers guessed "Silicate of Soda." Of course, you can't be any more certain about it than our cook was after she was ready to cut the pies; she had made an apple and a peach pie, and to tell them apart she marked both with a T; in one case this T stood for "T'aint Apple" and in the other it meant "T'is Apple."

* * *

The employment of centrifugal force for separating the nigre seemed like one of the rational propositions to me some time ago; the subject remained in my mind until I looked carefully over the centrifugal machines used for separating cream in large establishments and I became convinced that the machine could be modified to operate successfully on soap. Then I considered the cost of operating the machines on such a large scale and I began to wonder what would be gained over the present method of allowing the heavier portion to settle by natural gravity, which I think is quite satisfactory in most cases.

* * *

Looking for aid, with a view of gaining advantages in the soap industry, reminds me of the prospectors for gold who rested daily on a large rock on their way to and from their favorite prospecting grounds; finally the rock became worn to the extent of revealing plainly that what they had had an opportunity daily of examining proved a rich find.—The discovery being delayed because they had concluded it was useless to look for advantages that were so conveniently within reach of others, who were out on the same purpose before them.

* * *

In every line of business opportunities are left unexplored under the impression that if there were any advantage to be gained in that particular direction, others would surely have discovered it long ago.

Systematizing Practical Work In Modern Soap Factories.

BY GEO. A. SCHMIDT, CHICAGO.

(Continued.)

"Come down to practical working formulas at last; we have had enough of theories"—such is the cry of the average, easy-going, superficial reader. He wants "practical instructions" and in his hunts for them he, true to his nature, fails to recognize them when he comes across them, owing to his own carelessness.

Take the formulae for making Transparent Soaps with or without alcohol. Excellent formulae have been published for making same, but no amount of knowledge of the chemical composition can make up for the *experience* absolutely necessary for such soaps. They owe their appearance to a certain grouping of the molecules, to so close contact of the atoms as to expel every trace of air, and the causes which lead to same cannot be *explained;* only long continued observation of the "crystallization" taking place will enable a few specialists in their manufacture to make the best goods in this line. It does not pay the average soap manufacturer to concentrate his attention on this class of soaps alone. Only a co-operating of American soap manufacturers, as advocated by the writer for years, would enable some members of such an association to make a perfect article, to be distributed by the rest, by a system of exchanging products.

It is an erroneous supposition that chemical formulae, that even a perfect knowledge of chemistry, will make a good soap maker. How fast soap manufacturers begin to realize this fact was nicely illustrated by an old hand in the business who called on the writer recently asking him whether he could recommend a good soap maker. "But," he said, "for goodness' sake, no soap chemist; I had enough of them." Why a knowledge of chemistry alone is not sufficient can best be learned by such articles as written by Messrs. Melzer (AMERICAN SOAP JOURNAL, page 269 of May, 1902). It is shown there that even the *action* of soaps cannot be explained by laws of chemistry and that soaps and their actions are much more complicated than most soap manufacturers think. In this connection it is of interest to point to an article headed "How Does Soap Act in Washing?" written by the writer of this essay and published in the New York *Soapmakers' Journal* of January 15, 1881.—It is shown there that soap does not only act as a lubricant, but does more, inasmuch as it repels, sets in motion, waste matter, germs, etc. A soap bubble can give us pointers in that direction, look at it closely; also notice what happens when a drop of soap solution falls into a quiet sheet of dirty water: see how everything tries to get away from it. Although several scientists have attempted to explain the phenomenon, no satisfactory

solution of the problem has as yet been offered. But I thought it proper to remind readers of the fact that twenty-one years ago it had been stated in an American trade journal that soaps do *much more* than acting merely as lubricants and solvents, and for the sake of progress and in order to "systematize" our work the fact ought to be recorded.

Without further explanations energies might be wasted in trying to improve soaps by viewing them as "lubricants." Oils which are best for lubricating are worst for dissolving dirt, while the lighter mineral oils which are unfit for the former purpose do excellent work by dissolving *certain kinds* of dirt. But those will be sorely disappointed who rely upon an improvement in soaps for *general* purposes if they add light mineral oils (which have advantages for certain work). Queer at is may sound, yet the addition of soap as a lubricant is necessary where benzin or gasoline is used in the so-called "dry process" for cleaning clothes; without soap these light petroleum oils, naphtha, etc., are apt to ignite when being violently agitated in the process of washing soiled clothes. It is a specialty of a few manufacturers to make soaps for the above purpose, but few know how to make them completely soluble in gasoline;—another example why it pays to "systematize" the work in soap factories so that each man can do his part better. Theoretically many can make this class of soaps, but let them demonstrate it *practically;* let their product be used by an experienced cleaner and he will soon tell you why practical *experience* is needed to make satisfactory goods for technical purposes. Again, systematize the work in our soap factories, let the chemist attend to his very important duties, but do not imagine that real progress is possible if one man can superintend everything, or a few concerns be able to monopolize all branches of our business.

If we shut our eyes to above facts we shall never be able to do what our politicians tell us is necessary, i. e., to supply the world with American products. In order to succeed in that direction we must "systematize" soap-making, as some of our other industries have done.

Is Soap Making A Paying Business? No!

My Dear Mr. Editor:

Your correspondent, Mr. A. D'Estampes, has interested me in more ways than one and his present communication calls for an item which may be of general interest, and so I address you.

It is of vital interest that my location should be firmly fixed, and so I am a New Yorker, my present occupation is keeping a delicatessen store and living in the remembrances of what the soap business was, in the East.

For sixteen long years of my life I devoted to the soap business and know the factory as well as the office; the balance of my business career was devoted to machinery, printing, etc., all of vast interest to the soap business.

It is not a curiosity nor mystery to manufacture soap at his price, but of that there is no further interest; the question and answer at the top is the topic and the incentive for it is the bulk of the last paragraph of his letter.

Would that it were so: "The soap-makers simply boil soap, nothing else." Ye gods and little fishes, what a snap job it would be!

How would he like to have placed in the soap-makers' category the handling of shop fats, the rendering of the same, the supervision of the digester, the making of the soap, running off the pans, handling the spent lye, handling the crutchers, see that the filling got in, with the superior facilities which some factories have (this sarcastically), stripping frames, cutting soap, making your own lye, breaking your own caustic; yes, I, a soap-maker, have done more, have been into that veritable hell on earth of grinding and packing caustic soda, with crude and unaccomplishing facilities, and at a salary I am ashamed to mention here; but I left it, the soap business, and my years of experience, for an uncongenial existence here.

You say, maybe you are no good; well, if money talks, I earned $35.00 and $40.00 a week as superintendent.

Very briefly, a few incidental events will show why I say No! in answer to the question.

A soap-making concern of Chicago looking in New York for a soap-maker to correct an unsatisfactory product of their plant, offered the munificent salary of $18.00 per week. I wanted $25.00 and questioned why not a Chicago soap-maker, and there is a good story to tell here—but I am in New York to-day.

A corporation about to bring out a product of a laboratory chemist finds that a business practicability is a factor that makes the money, well I did it. Oh! how did you do it? I'll tell you tomorrow, and the rest of the story has to be told.

A million dollar corporation wishes to add a soap plant to its various other manufactures and seeks a man to design, build a plant and then run it; not it "ought to do so and so," but run it; and $18.00 per week is the wages offered with the provision that all formulas and methods of procedure in making the goods are to become the knowledge of the concern.

I wanted $50.00 a week, a three-year contract and would sell my formulas and methods of procedure.

Perhaps it would be well to say I am something of an inventor and developer.

A soap concern says, come and show what you can do and good money will be yours in six months. I serve my time and during the time am told: You surprise

me with your success. My answer was: That's what I am doing all the time: but I left and that place has closed its doors. And so I could go on, but the telling you the doors were closed throws a panoramic mind's view across my intellect of the soap concerns which are wrecks here.

The Chas. S. Higgins place has been razed to the ground, broken down trucks cover the available space, stables are there and the dung heap gives off no effluvia that equals the noxious recollections of that failure, and there was a business done there of over a million and a quarter a year.

Mr. John H. Doscher's place is occupied by a silk dyer. The Friedman-Doscher Co.'s building is occupied by a paper box maker, and here and there are many little concerns which popped up their heads for a time and then went down in the abyss: and I could tell you more, but as we have just seen them go—let me, too. Dissuade yourself of the idea that soap manufacturers want the best and pay well. Bah! you and I know too much for our own good, but in different ways.

Your brother in the soap line,

A. H. NOLTING.

Ten Million Dollars (In Paper).

BUFFALO, N. Y., Sept. 15th, 1902.

EDITOR AMERICAN SOAP JOURNAL:

Dear Sir: You have several times of late referred in you editorials to certain soap trust or syndicate, and seem rather dubious regarding its successful work in practice.

No doubt it would suit the promoters, who doubtless hope for good billets with fat pay and very little to do.

As you say in your last issue, ten millions of dollars is a big sum of money if in hard cash, but very little in worthless *paper stocks;* but even if that sum was in hard cash it would not buy one-tenth of the soap businesses in the United States, and then if such a syndicate got to work it should have a very short life, for it would find that it would have to fight before it could crow; it would not become the Rooster of the Walk all of a sudden, but after a severe or a series of severe fights if it did succeed.

Had such a syndicate a *billion* of dollars instead of ten *million,* it could not control the soap trade.

It is a well-known fact, which was proven times out of number, that no company or corporation can successfully compete in soap-making with a private individual who, as our friend the Kentuckian said in a former letter, "knows the what fors and the reasons why" in soaps.

A company cannot be managed and worked as cheaply as a private concern, for the simple reason that the profit that will satisfy *one man* will not and can not satisfy dozens or hundreds of men, which it has to do in corporate bodies. Money is always plentiful for successful concerns; the banks have plenty of it and they have it to lend, not to keep locked up in their vaults or safes.

Were a syndicate or trust formed to take in all the soap works actually in operation, it would require fresh capital tomorrow and the day after and so on to take newly-started places, or else the new starters would oppose the syndicate and keep its prices low and make it sell soap at a loss

A small soap works can be started with very little cash by a man *that knows how,* and as the small mosquitoes worry the elephant when he could crush thousands of them under one of his feet, but he cannot crush them all, and they bite him on, and torture him, and worry him, and he must bear it.

It would be so with a soap trust or syndicate if it was formed; they could fight perhaps big concerns, but they could not fight many small ones who knew how, for they would pass through its claws and attack it on all sides at once like so many ants and destroy it at last; some would fall, others would rise.

You are quite right, a soap trust is an Utopia *which can never exist in fact,* for it would have to keep buying on places and buying all the time, or else fight all the time.

Many times have, to my knowledge, agreements been made between manufacturers as to the selling prices of soaps, but they never stood, for either some of the signatories played false and undersold the others, or else new concerns, and mostly small ones, got on the field and forced the big ones to lower their prices and the fight had to begin anew, more murderous than ever it had been before.

At soap-making the smart man thinks he can undersell all his competitors, *and he does it;* at the start he is satisfied to make wages for which he works, and in so doing compels big concerns to lower their prices or else he very quickly gets part of their trade.

Soap-making is not like sugar, steel, flour, etc.; it requires but little to make soap to a man who knows how, and no syndicate or no trust can exist in soap-making, let the promoters be who they may.

Many incompetent, soft-brained manufacturers would no doubt welcome the formation of such a syndicate as a boon, but smart and successful manufacturers would have none of it and would fight it to the bitter end, and beat it, what is more.

I for one fear very much that the ten million worth of stocks will not be subscribed by the public even at one cent for a par value of one dollar, and if bought the buyers would soon want to sell them again at any price.

To conduct a soap business it needs a man that knows how, and such men as a rule prefer to work for themselves than for a lot of thankless stockholders.

Like you, I believe that manufacturers of soap can rest in peace and need not worry about the coming trust

or syndicate in soaps, for it will be quite harmless to them; let them instead make good soaps and get big profits and pile up fortunes, for no undertaking is now such a money-making one as soap-making is, if well conducted, as it earns at least 300 per cent. a year on capital invested; there is no other business that can earn that much. I remain, sir, yours sincerely,

A. D'ESTAMPES.

Danger Threatening American Rosin.

JACKSONVILLE, FLA., Sept. 16, 1902.

EDITOR AMERICAN SOAP JOURNAL:

Dear Sir: I take pleasure in sending you some clippings from our local paper, the "Florida Times-Union and Citizen," the reading of which will, I hope, greatly interest your readers.

There seems to be, however, a mistake somewhere, or perhaps something worse, and I am just trying to find out which is which. I have written to Prof. Herty to ask him whether or not he claims the credit of discovery of the so-called *new system* of gathering the gum and of the appliances used in it. I want the credit given to where it belongs and that is: First, to France, where that system is in use for over forty years; second, to the AMERICAN SOAP JOURNAL, which published the description, *with illustrations,* of that system, and also of the process of distillation by steam and the description of the means of *avoiding waste* in gathering the gum and in the course of manufacturing; in fact in making waste impossible. That publication took place in the issue of *May, 1891!!*

You will hear from me again on that important subject, in time for your issue of November next.

Yours truly,

E. MOULIE.

[*First Enclosure.*]

Turpentine Operators' Association Holds Its First Annual Convention.

Six Hundred Representative Naval Stores Men Gathered in Jacksonville.

President Covington's Report Shows $4,000,000 Saved to Operators, Largely by Work of Association—Prof. Herty's Address.

Six hundred representative naval stores men from several Southern States were gathered in the Casino Theater, Riverside, yesterday morning, when President Covington of the Turpentine Operators' Association called the assemblage to order, and with a few pleasant words introduced Mayor D. U. Fletcher and afterwards Governor W. S. Jennings, to welcome the visitors and others to respond, and to speak upon subjects of the most interest to the men in the turpentine business. The occasion was instructive and interesting, and the several sessions held during the day were all conducive to the good of the turpentine men and the South.

Mayor Fletcher in his address said:

"At the present rate your industry will not last fifteen years. The forests will be laid low. 'The mill will never grind again with the water that is past.' The naval stores business will reach an end, and we will have very few trees left for timber. In France, I am told, they manage so as to open the trees and gather the gum in such a way that the trees may live a century. I hear some of you saying: 'What does a lawyer know about our business?' You sometimes speak of jack-leg lawyers. I want to be frank and say that there are some jack-leg turpentine operators. You exhibit no more science in the present system in the way you open your trees and gather your gum and destroy the forests, than does the jack-leg lawyer in the handling of his cases. If you will stop to investigate and consider the matter you will agree with me. I call on this association to bring about needed reforms for the sake of the forests and for the sake of your own industry. Another thing, you complain about low prices for your product. Did you ever stop to consider that it must be impossible to produce a good article of spirits when you let go into your still chips and dirt and trash to discolor, adulterate and make less valuable the oil? A very little trouble in eliminating the very large per cent. of foreign matter from the gum when it is put into the still would give you a product worth many times more in the market than you get under the present method.

"I trust you will in some way, while looking after increasing your returns, see that your business may continue many years, and that you leave something behind when you are gone."

[*Second Enclosure.*]

PROF. H. C. HERTY'S EXPERIMENTS EXPLAINED TO THE OPERATORS.

No feature of the turpentine convention in Jacksonville afforded more genuine pleasure to the turpentine men than the interesting address which was delivered last night at Wolfe's theater by Prof. Charles Herty, government expert on forestry and the turpentine industry. Professor Herty's address dealt with the experiments which the government has been conducting at Ocilla, Ga., the work being directly under the supervision of Professor Herty. It was the intention to have the lecture illustrated with stereopticon views, and the apparatus was provided, but the views were delayed in shipment. Nevertheless, Professor Herty managed to treat his subject in such a clear and lucid manner that the audience had no difficulty in following the description of the *new method* of extracting turpentine which the government has put into use, and when Professor Herty gave a detailed list of figures, showing just how much had been made by the new process, and where its saving effect from waste came in, it was evident that the turpentine men were profoundly im-

pressed, and the leeturer was listened to with the elosest attention. Professor Herty had specimens of the equipment required for the process on hand, eonsisting of elay eups and small galvanized slips, made in the form of a gutter. Professor Herty said:

"Our work at Oeilla has been directed solely to the testing of the *new method* of eollecting erude turpentine whieh does not involve the eutting of the box from the pine trees. The defeets in the system of using the box are, first of all, the injury to the timber by weakening it against windstorms and subjecting it to fires, at the same time eausing a waste of the turpentine by dripping on the ground in the case of old boxes and evaporation from the faee of the surfaee of the tree. Our aim has been to determine to what extent the dry faeing is produeed by box eutting, and if unboxed timber is eapable of produeing more turpentine than boxed timber. The work has been eonduеted on the plaee of Powell, Bullard & Co., at Oeilla, Ga., the bureau of forestry furnishing the equipment and plaeing it on the trees, while the work of ehipping ,etc., has been done by Powell, Bullard & Co. In the work, four erops have been used, the first, seeond, third and fourth-year erop. One-half of eaeh erop is worked in the usual manner of working turpentine, while the other half is worked under the new system. The gum is eolleeted separately from each set, stilled separately and the rosin sold separately. The rosin has been elassified and sold by the Southern Naval Stores Co., of Savannah. Under the *new system* two straight faces are eut on the tree by means of elub axes, and on eaeh of these faecs a slanting ineision about one-quarter of an ineh deep slightly inelined is made by means of a broadax. Into these incisions narrow strips of galvanized iron, bent to form a gutter, are inserted. These gutters lead the gum to a elay eup suspended on a nail immediately below the gutter. At intervals of three or four weeks the dippers lift the eup from the nail, and with a metal knife remove the gum from the eups into the buckets. This being the first year of the work, it has been neeessary to use in the seeond, third and fourth-year sets timber whieh has been boxed in previous years. In the first-year set, however, one-half of the erop eontains no boxes. The spirits of turpentine obtained from the several sets up to date are as follows:

CROP—	Boxes.	Cups.
First	957 gallons	1,151 gallons
Seeond	780 gallons	977 gallons
Third	440 gallons	642 gallons
Fourth	289 gallons	555 gallons

"The net sales of rosin up to Aug. 2, were:

CROP—	Boxes.	Cups.
First	$218.47	$237.54
Seeond	63.88	174.29
Third	19.92	87.64
Fourth	24.04	122.73
Total	$326.31	$622.20

"The dippings from the virgin or first-year erop have been spirits of turpentine as follows:

Number of Dippings.	Boxes, Gallons.	Cups, Gallons.	Excess, Gallons.
1	102	84	boxes 18
2	111	131	eups 20
3	137	178	eups 41
4	143	191	eups 48
5	142	175	eups 33
6	115	142	eups 27
7	107	127	cups 20
8	100	123	eups 23
Total	957	1,151	cups 194

"The amount of dry faee whieh had developed during the first half of the season in the first year's erop was: In the eupped half, 4,840 inehes; in the boxed half, 11,127 inehes.

"When to the results obtained in the seeond, third and fourth year erops, all of whieh have been boxed in previous years, is added the increased produetivity of unboxed trees, as shown in the first-year erop, these figures, in conjunetion with the greater amount of dry faeing in boxed timber over unboxed, justify an estimate that for every four barrels of spirits produeed this year three barrels have been wasted. At this ratio the erop of the present year, estimated in round numbers at 600,000 barrels of spirits, together with 2,100,000 barrels of rosin, the total value being $17,400,000, should have been from the same timber and from the same labor 1,050,000 barrels of spirits and 3,675,000 barrels of rosin, the total value of whieh would be $30,450,000."

[*Third Enclosure.*]

Lamentations from the "Savannah Morning News" Referring to the Statement Made By Prof. Herty.

What a tremendous waste has been going on all these years! If *Prof. Herty's system* had been in use sinee Savannah beeame the headquarters of the naval stores industry the product that has been marketed from this port eould have been obtained from a little more than half the number of trees that were boxed to get it. What a saving there would have been therefore in the cost of produetion!

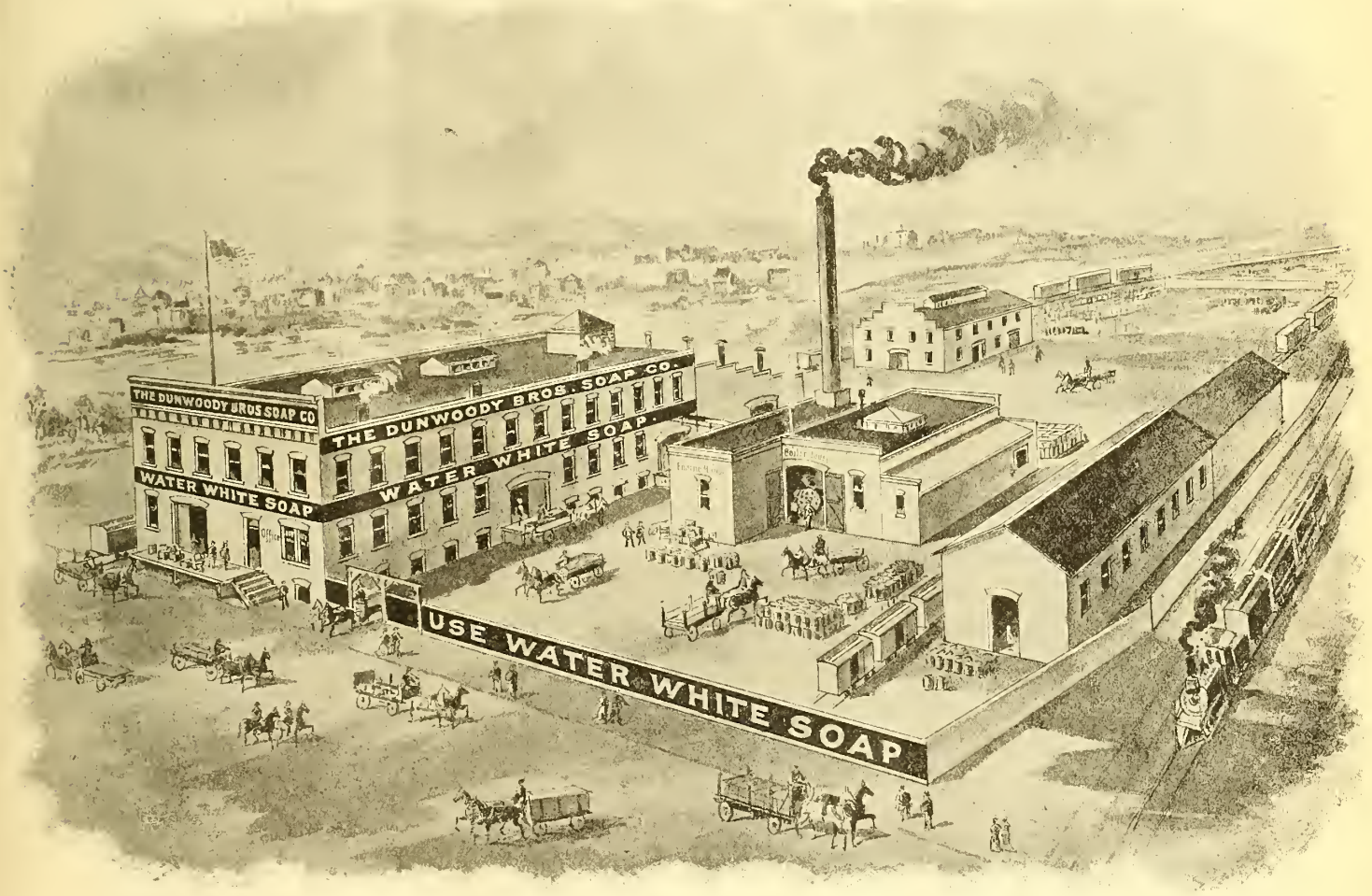
There is no use, however, in regretting the mistakes that have been made. The thing to do is to set about adopting the *new system* at onee. The pine forests are rapidly disappearing. Unless the naval stores industry is to beeome a thing of the past in this seetion of the world areas of pine forests must be proteeted from the ax, and *the system devised by Prof. Herty* for the economieal gathering of the gum from the tree must be adopted.

A WESTERN SOAP FACTORY.

Among the soap factories of this country there are some which, for one reason or another, we believe to be of special interest to our readers, and some of these we hope to describe in these columns. One of them is the factory of The Dunwoody Bros. Soap Co. of Denver, Colo.

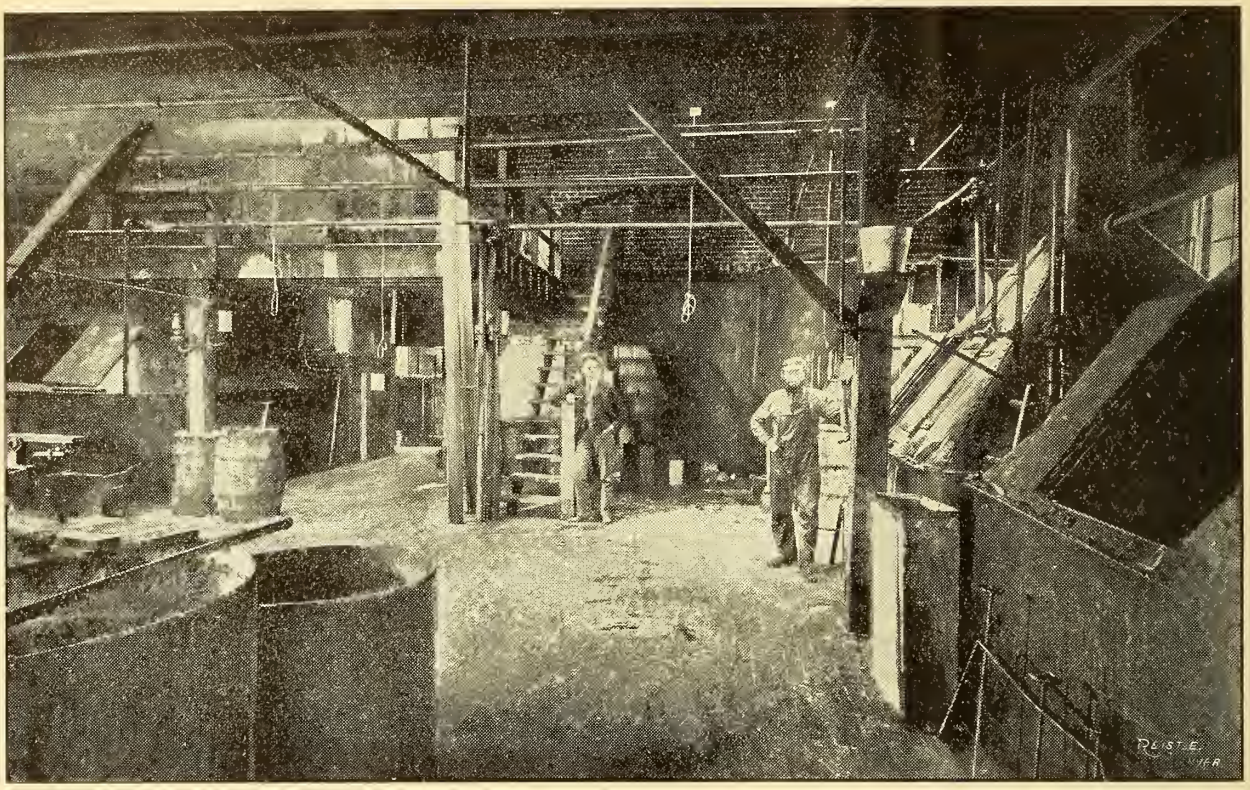
If we were asked to give reasons why this firm is of interest more than some others, we should not be at a loss to reply. For there was a time—not so very, very long ago—when there were 7 or 8 soap factories in active business in the single city of Denver: as some of these went out of operation, others started, and in the course of a dozen years during which we have kept a list of soap factories, we have had the names of fifteen different soap manufacturers in Denver on our list—and not all these represented small firms either. And while all these firms, large and small, have gone out of existence one by one, The Dunwoody Bros. Soap Co. has prospered more and more and is doing a larger business to-day than ever before.

The firm was originally formed in 1892 by two brothers, both brought up in the business. William Dunwoody, the former president of the company, went to Denver from New York in 1882 and was at first with the old Union Soap Co. (which is no longer in existence). He died altogether too soon, and lamented by a wide circle of friends. In 1886, his brother, Foster J. Dunwoody, had also gone to Colorado, and together they established, in 1892, the business which the latter is now continuing. They began with a small factory on the Platte river and soon after incorporated with a capital of $50,000.



WORKS OF THE DUNWOODY BROS. SOAP CO., DENVER, COLO.

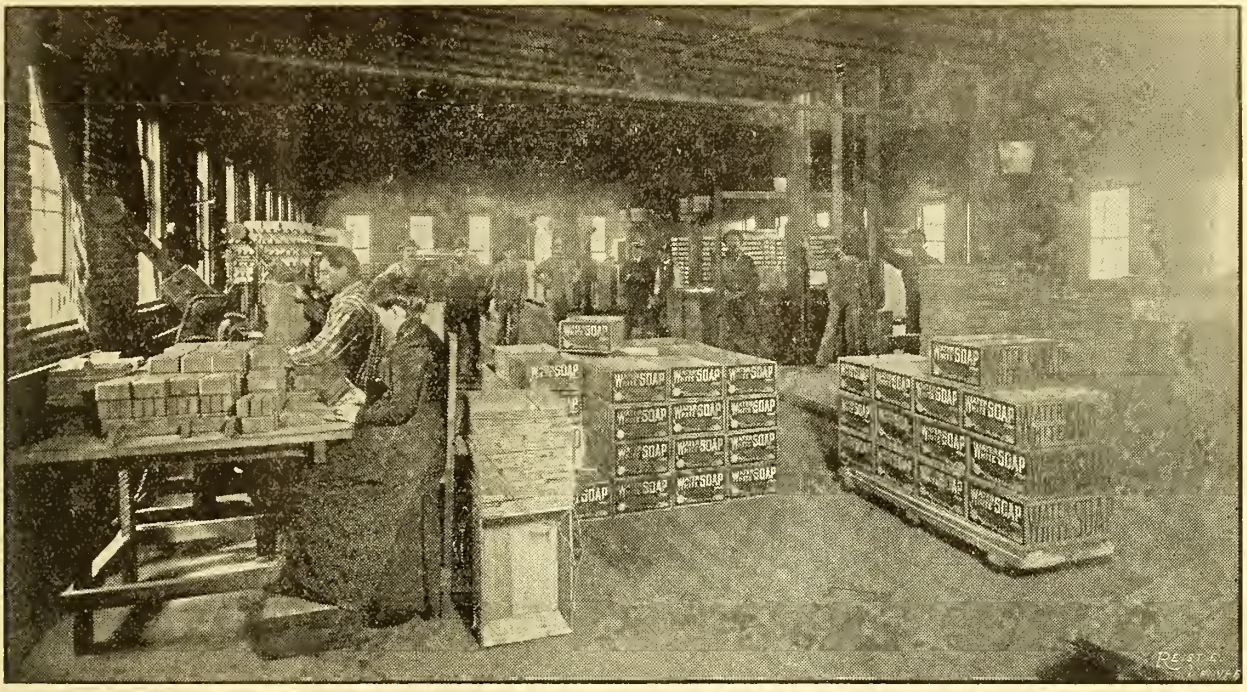
Their business was so successful that within three years (in 1895) they had to extend their facilities so greatly that nothing short of a new factory would answer, and as a result they erected the present factory on Nineteenth street, near the Platte river. This establishment was built expressly for the purpose of a soap factory and equipped with everything modern in the line of facilities for the economical manufacture of soap.



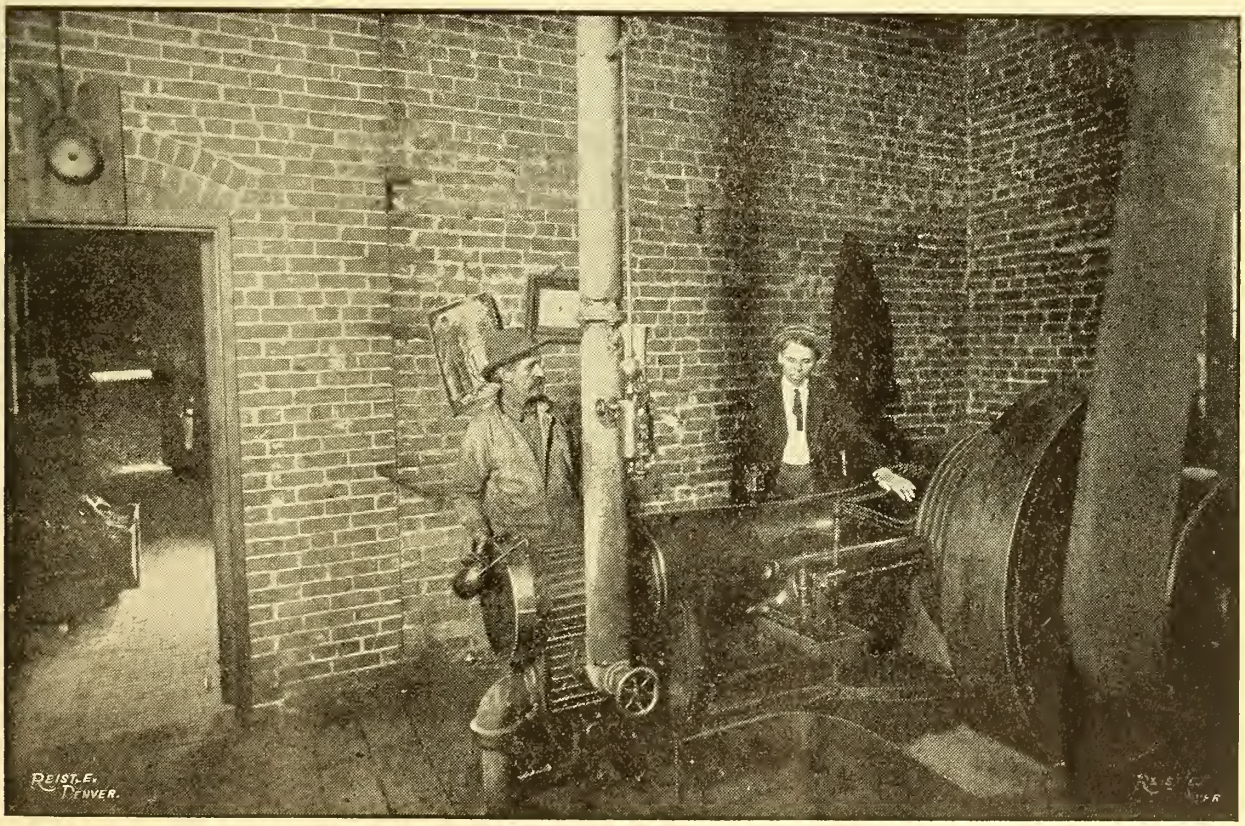
KETTLE ROOM, DUNWOODY BROS. SOAP CO.



COOLING ROOM, DUNWOODY BROS. SOAP CO.



PRESSING AND PACKING ROOM, DUNWOODY BROS. SOAP CO.



ENGINE ROOM, DUNWOODY BROS. SOAP CO.

There are two kettles of 140,000 pounds capacity each and two others of 75,000 pounds each, besides all the other necessary modern machinery; there is also a large warehouse with a special track on each side. The factory is also provided with one of the best, if not the best, laboratories of any soap factory west of the Missouri river. Apart from office force and travelers the factory gives employment to 25 to 30 employes the year around.

The well deserved success of this firm has been gained by hard, unremitting work, undivided attention to the most economical methods of making clean, serviceable, honest goods, and by such equitable business methods as have made the firm a favorite with its customers. Adding to this a judicious use of printing ink and premiums, the Dunwoody Bros. Soap Co. has well earned the success it enjoys.

The chief product of the firm is the "Water White" brand of laundry soap in which the annual business amounts to $200,000 and which brand is shipped for hundreds of miles in every direction from Denver. Other brands made are Colorado Best, Silver State, Clean Up, Queen City, Pike's Peak, etc. In addition the factory has a large output of washing powder, soap chips and sal soda. The soap chips department of their manufactures is prospering remarkably and, conducted on the lines which have made the other goods so successful, will from now on be an important feature of this business.

The Cotton Seed Industry.

BY CHARLES M. DAUGHERTY, OF THE DIVISION OF STATISTICS, IN YEAR BOOK OF THE DEPARTMEMT OF AGRICULTURE.

(*Continued.*)

COTTON SEED HULLS AND OIL CAKE.

Cotton Seed Hulls.—The only other, but by far the most important, by-products from the manufacture of cotton seed oil are cotton seed hulls and cotton seed cake, both—the latter especially—of great economic and commercial value as cattle food. After the process of reginning the cotton seed is run through hulling machines, which cut it to pieces and screen the hulls from the meats. Very nearly one-half of the entire weight of the seed is thereby converted into the marketable product known as cotton seed hulls. In the early years of the industry this by-product was used solely for fuel, one ton of hulls being about equal in fuel value to one-quarter of a ton of coal; and practically the entire motive power of the early mills was derived from this source. In recent years the use of hulls for fuel has been totally abandoned. It has been practically demonstrated that, mixed with cotton seed meal, they are of superior value as a food for cattle, and for this purpose a steady demand now exists throughout the Southern states for the entire supply. When cotton seed hulls are worth the fair price of $3.50 a ton, there would result a value of about $8,000,000 from the utilization of the possible outturn of hulls from a 10,000,000-bale cotton crop.

Cotton Seed Oil Cake.—As is the case in the manufacture of peanut oil and cocoanut oil, only the meats of cotton seed are utilized for oil extraction. These, under ordinary conditions, constitute almost exactly one-half the entire weight of the seed—1,000 pounds of meat to every short ton of seed. Their oil contents naturally varies with the conditions of soil, season, etc., where the seed is grown; but, as a general rule, it is about the same as that of flax seed. The yield of oil is, under fair conditions, about 30 per cent. of the weight of the meats, or about 300 pounds of oil (40 gallons) to every one thousand pounds of meats. The residuum, after the expression of the oil (700 pounds out of every 1,000) constitutes the well-known commercial product, cotton seed cake, or, as it is called when ground for feeding or fertilizing purposes, cotton seed meal. This by-product contains nitrogenous properties of great fertilizing value, and is, moreover, when used as a mixed ration, one of the most valuable of cattle foods, containing on an average 43.26 per cent. protein, 22.31 per cent. nitrogen free extract, and 13.45 per cent. fat. Next to the oil itself, this is commercially the most valuable product of cotton seed. It usually commands a price, pound for pound, about one-fourth that of the oil; and hence the proceeds from the oil manufactured from a ton of cotton seed are, at the best, not more than double the returns from the cake. For use, both as a fertilizer and for feeding purposes, there has been a steady demand for this product ever since the inception of the industry. Until within the last twenty years, however, the use of cotton seed cake and meal as a cattle food was not practiced to any great extent in the United States. The bulk of these products was exported to Europe and competed successfully in the European markets, as a cattle food with like by-products of flax seed. In fact, the identical use to which cotton seed cake and linseed cake were put are suggested by the fact that previous to 1895 they were not separated in statements of exports. The early domestic demand for cotton seed cake and meal was, on the other hand, almost exclusively for fertilizing purposes, and was confined chiefly to the Southeastern states, where continuous cropping of the soil had made fertilizing a necessity. But since the remarkable development of the cotton seed industry in Texas, cotton seed meal, mixed with cotton seed hulls and mill feeds, has been extensively adopted as a fattening food for cattle in the Southwestern states. Several hundred thousand head of cattle fattened upon this product are shipped thence each year, and its use as a feed has now become popularized to a limited extent throughout the entire South. The bulk of the cotton seed cake and meal man-

ufactured in the United States is, however, still exported. During the past three years an average of almost three-fourths of the total product has been shipped abroad. It is somewhat remarkable that the total domestic consumpion of this product, as deducted from trade statistics of production and exportation, shows so little increasing tendency. During the period from 1895 to 1901, the only years in which the exports of cotton seed cake and meal are given separately in statements of exports, domestic consumption seems to have remained fairly steady, with no tendency to increase at all commensurate with the growth of manufacture. Evidently high prices and a heavy export demand were the primary causes of this state of the trade. There can be little doubt that there is a tendency to an increase in the use of this product in the Southern states for feeding purposes, and that larger and larger quantities are annually being diverted from employment as a fertilizer to use as a cattle food. Practical economy has demonstrated that its full value is best realized in the cattle feeding industry. To indicate the possibilities in the cotton seed crop of the South it may be noted that at the low price of $20 a ton, the cake or meal alone from the seed, if all were utilized, of a 10,000,000-bale cotton crop would have a value of about $35,000,000.

PRESENT STATUS OF THE COTTON SEED INDUSTRY.

The impetus thus given to the cotton seed industry during the first thirty years of its existence has gathered even greater force within the past few years. Since 1897, 200 additional mills, approximately, have been constructed in the cotton growing states, making a total of about 500 now manufacturing oil. Texas maintains its supremacy in the industry with a crushing capacity, embracing one-third of the total number of mills. Georgia, South Carolina and Mississippi are each of almost identical importance in the manufacture, and, combined, have about 40 per cent. of the total number of mills. Alabama, Louisiana and North Carolina, in the order of their rank in the business, have between thirty and forty mills each. Upward of twenty mills are located in each of the states of Arkansas and Tenessee, and the remainder is distributed in numbers ranging from one to nine each in Virginia, Florida, Missouri, Oklahoma and Indian Territory. Although the crushing capacity of the Southern states has been increased by about one-third within the past few years, the mills, during the seven months of the year in which they operate, utilize only about 50 per cent. of the entire crop of seed. It should be observed, however, that the increase in the number of oil mills from 1897 to 1901 has been attended and partially offset by an increase of from 25 to 30 per cent. in the quantity of seed annually produced; and hence a statement of the percentage of the crop now manufactured, as compared with the proportion utilized a few years ago, falls far short of indicating the true development of the industry. Commercial authorities estimate the proportion of the crop now manufactured at about 50 per cent. of the gross quantity produced, against 40 per cent. in 1897. But the actual quantities indicated by these percentages are 2,415,140 tons of seed manufactured in 1901, against 1,628,000 tons in 1897, an increase of 49 per cent. It must not be assumed that all of the large proportion of the crop unutilized for manufacture could, under any circumstances, be used for that purpose. From this surplus seed must be drawn for planting 25,000,000 to 28,000,000 acres of cotton seed, it should be noted, of a somewhat bulky nature, weighing only from 30 to 33 pounds to the measured bushel, and sown by an extremely wasteful method, an inch apart in the rows, 90 per cent. of the growing plants to be afterward "chopped" out in thinning. Also, the hereditary habit among many cotton growers of carelessly handling this formerly waste product, together with its ready susceptibility to ruinous damage from rain or moisture, doubtless unfits considerable quantities yearly for manufacturing purposes. Cotton seed in its natural state, too, is still used, perhaps to a small extent, as a fertilizer in localities remote from mills. In short, there is practical unanimity among commercial authorities that not for from two-thirds of the annual cotton seed crop actually available for manufacture is now converted into oil and other products. The steady demand, both foreign and domestic, that has been firmly established for cotton seed oil, oil cake and meal, and, more potent still, the high prices that cotton seed itself now commands in the primary markets, are influences furnishing a stimulus to this industry that doubtless will very soon result in the manufacture of every available pound of cotton seed raised in the Southern states.

BENEFITS OF THE COTTON SEED INDUSTRY TO THE COUNTRY.

The benefits accruing to the country from this industry are of a diversity that can scarcely be conceived. In it a capital of over $100,000,000 has been invested and distributed throughout the Southern states. As a result good markets now exist in hundreds of Southern cities and towns for an agricultural product that within the memory of middle-aged men was notable chiefly for its unadaptability to profitable uses. Tens of thousands of laborers, almost exclusively of the resident negro race, now find employment in the manufacture of cotton seed oil and in the various occupations directly incident to the industry. In the two chief products—oil and oil cake or meal—a foreign export trade has been established that returns to the South annually from $25,000,000 to $30,000,000, and the domestic trade is not greatly inferior. Naturally, allied industries have sprung up near sources of supply for their raw material. Fertilizer factories, utilizing cotton seed meal as a source of nitrogen in mixing fertilizers, effect economies by combining with

or locating near the oil mills. Cattle feeding, especially in the states west of Mississippi, has been found by eattle feeders to be a profitable adjunet to the mills, and is practiced on a large scale. Oil refining, which was formerly done almost exclusively by the Western paeking houses, the crude oil being shipped thither from the South, is now earried on extensively by the oil mills themselves. The grinding of oil cake into meal, in a manner an allied industry of oil making, is also largely confined to the cotton seed oil mills. It is notable, too, that in the trend of modern business methods, combinations of the capital invested in this industry have been made for the purpose of effecting economies in the manufacture from the raw material, and of regulating trade in the manufaetured produets. Uniformity of prices has been established throughout the South for a produet of the eotton fields that, even a few years ago, was valued—according to locality—either by the whim of the purehaser or by the keenness of competition. Cotton seed is now quoted, bought and sold on Southern Cotton Exchanges after the manner that grain is on the Boards of Trade and Produce Exchanges of the North and West. In faet, the eotton seed industry, originally based upon the chance discovery that a eumbersome and unsalable by-product of the cotton belt was rich in oil valuable chiefly for adulterative purposes, has now been transformed into a separate, distinct, organized business, and its manufactured products are sold extensively, both in foreign and domestic markets, on their own merits, for a great variety of purposes. The eotton seed crop is now an important entity in the agriculture of the country, and has the distinction of being the most valuable oleaginous seed crop produeed in the United States.

Fuel Oil.*

BY J. P. FOLLIARD.

I am afraid you have conferred the honor of preparing a paper on the interesting and important subject of fuel oil on your most unworthy member, but the subject having been assigned to me, and being a little enthusiastic on the subject, I will undertake to tell you, in my simple way, the little I know concerning our rececently acquired friend and benefactor.

A good many artieles have been published since the discovery of the Lueas gusher at Beaumont about the inestimable value of erude petroleum for fuel, and, in our business, seemingly fabulous stories have been told of the shrinkage in the fuel cost of manufaeturing cotton seed produets that have resulted in many Texas oil mills consequent upon its use. I ean assure you, however, that there is no good reason for doubting the accuracy of the statements made of the results attained. My own experience, as well as that of others in my section of the state, leads me to the conclusion that it is a veritable bonanza; but while this is true it requires eareful and proper handling.

Oil is a very rieh fuel and quickly responds to the eall for more heat. This is really one of its very best qualities and at the same time one of its most dangerous features. On its ready response and effective reply to the fireman's touch of the valve, intense heat is generated, sometimes faster than the water ean absorb it on the other side of the boiler plates, and a spheroidal state is likely to ensue, when the plates, being deprived of their watery protection, become overheated and a blister or bag is the result. Sueh a result is not so likely to happen with coal, for the reason that if when using it a eall comes for more steam, the shovel, the poker and the rake are brought into serviee, sometimes resulting in giving too mueh or not enough eoal, with the fire doors opening and closing frequently, giving both hot and eold drafts and lots of worry before the eomparatively sluggish coal responds; and thus while the danger of bagging or blistering the boiler shell is perhaps reduced to the minimum, the trouble, delay and expense of trying to force the fires reaches the maximum. Oil responds more quickly to the wants of the mill than any other fuel. It goes to work by the simple turning of a valve, delivering heat into the boiler in a constant, steady stream; relieved of all outside influences and answering to the touch of the valve, it puts on a faster and faster spurt as the attendant manipulates it, and it is at this juncture that an intelligent use of this fuel is required. Overheating of the plates, as well as heating them in the wrong places, is undoubtedly the most serious feature to be contended with. Steam users have always been on the alert for a fuel with lots of available heat in it which would respond quickly and be ready on demand, and I assert that we have this very fuel in crude petroleum. It is equal to any emergency, easy of applieation, almost as quiek as powder and practically without a limit in efficiency. "Can we use it with safety?" is frequently asked, and "Of course we can," is the reply. Can we abuse it with safety? may be asked, and my reply is, I think not. It is an obedient servant to the careful fireman, and an expensive and dangerous master to the careless and indifferent man. There need not be the slightest fear of using oil if the details of manipulation are carefully looked after. The first thing after a good fuel oil-burning installation is a careful man to look after the burners and take proper care of the installation and the boilers. In some instances, within my knowledge, some damage has been already done by careless and ignorant handling of this fuel, but many other useful articles, such as gunpowder, dynamite, nitro-glycerine, etc., are far more dangerous and have caused the loss of many lives and the destruction of much valuable property, and yet the manufacture of these commodities continues and they are transported by rail and steamer to all parts of the world,

with comparative safety, and accidents, as a rule, only occur as a result of carelessness or ignorance.

It is claimed by some persons that oil has a tendency to produce priming, but I do not not think this statement is well founded except, perhays, in instances where boilers are worked much harder than before oil was used, or where the arrangement of the furnace is faulty, and there is so much baffle wall as to produce a dangerous concentration of heat at that particular point when violent evolution and rapid evaporation may produce such result. A proper provision against priming is to set your burners and baffle walls low, so that the heat will be properly diffused. One or two plates of the boiler shell cannot reasonably be expected to do the work of the whole boiler, and do it satisfactorily and safely. There is a reason in all things, and particularly in this very matter if the best results are to be secured from the combustion of oil. The requirements seem to be, perfectly dry steam, superheated is best, and just as little of it as is necessary to atomize the oil and carry it beyond the air passages at or near the nozzle of the burners, and to have the oil just as hot as it can be got, gasified if possible. To obtain the latter condition, or any near approach to it, it is best to keep the pressure on the burners as low as will work well; this reduces the temperature of evaporation, which is given at about 140 degrees. Fahrenheit. Under atmospheric pressure, of course, if the oil is gasified in its passage to the furnace, the rate of evaporation would have to be rapid enough to keep up the rate of fuel consumption, just as we have to regulate the fires to keep up the required rate of steam evaporation to meet the demand of the engine's consumption. It may be that some lucky fellow will hit on a good, safe plan to completely gasify the oil, but so far there is not even a near approach to it that I ever heard of. The state of the weather and conditions of the atmosphere seem to affect the combustion of the oil. When the air is thoroughly saturated with moisture, such as in foggy or rainy weather, the combustion is not as complete as in fair weather, and more oil is generally required to accomplish the usual work. To correct this condition the air should be made as hot and dry as is possible to get it. Several schemes have been devised to accomplish this result, but so far as I know none of them has given the desired heat or dryness to the air. Oil being almost an atomized fuel is very sensitive to moisture, and to changes of temperature, hence the prime importance of absolutely warm, dry air, and perfectly dry and if convenient highly superheated steam.

In regard to general results in burning the oil, it is found that different burners give different efficiencies at the same place and that the same burner gives different results at different places, as the conditions and manipulation vary. A real good atomizer may be made to render very poor service by bad management, while, on the other hand, a careful person, with conditions just about right, may, and usually does, get fairly good results out of an inferior and comparatively crude instrument, that is, as compared with the cost of coal; especially, too, is this the case when coal had previously been used somewhat extravagantly and the oil on the other hand with more intelligence and greater care. The art of burning oil right is more readily learned than the art of burning coal right, still I find it is easier to waste oil than it is to waste coal, for, while the coal requires strength, endurance, and the mechanical skill acquired by long practice, the oil, on the other hand, only needs a fair knowledge and application of the laws of complete combustion; a little careful attention to the steam supply, air supply and oil supply, also a critical eye to the quality and quantity of each of these three important factors; the pump and atomizer will take pretty good care of the rest.

And now, Mr. President, and members of the Association, as our intention was to discuss this matter in a general way only, I will say nothing just now of special ways and means of accomplishing the best or worst results. There are several of these schemes, some good, some better, some that are not good, and I guess there are one or two of them that are, perhaps, the very best of all. There may be better coming—let us hope so—for we know to a certainty that the best is not yet.

In concluding this matter, gentlemen, I do not know that I can do better than to give you the actual results of a two weeks' run made in the regular way by the Lamar Cotton Oil Company, at Paris, Texas, beginning April the 14th of the present year and ending April the 29th. The figures speak for themselves and I submit them to you just as they were taken during our regular business at the winding up of the season, and if anything at a disadvantage to the showing for the oil.

During the thirteen and a half days' run we evaporated 254,400 gallons of water, or 2,120,000 pounds. We consumed 24,000 gallons of fuel oil, or 156,000 pounds, which gave me nearly 14 pounds of water evaporated to one pound of oil. We crushed about 950 tons of seed. Our fuel cost us a little less than 25 cents per ton, while the coal cost was between 36 cents and 42 cents per ton during the season of 1900 and 1901.

Saponification of Oils And Fats In Bleaching.

Some time ago Mr. Albert Scheurer contributed to the "Bulletin" of the Mulhouse Society a lengthy communication on cotton bleaching, in which he gave the results of some experiments on the saponification of fatty bodies on cotton cloth, his object being to find what differences there are between different oils and fats in their behaviour to scouring agents. He made experiments on tallow, cottonseed oil, fatty acids, and min-

eral oils. The experiments were made in flasks (when the boiling temperature was used) and in iron tubes (heated in a bath of oil in those made at 120 deg. C.) A piece of cotton cloth four inches square had a spot of one or other of the fatty matters experimented with placed on it, and then it was boiled in the flask or tube, afterwards washed and dried, and the dry pieces placed on a dish of cold water. If free from grease, the whole surface of the cloth became instantaneously wet, but if not free from grease the cloth wetted only slowly, or not at all, showing up the spot of grease well. It was found that some fats were more difficult to remove than others, tallow being one of the most difficult. The natural fatty matters of cotton are more difficult to saponify than cottonseed oil, but less so than tallow. A solution of caustic soda (5-10th parts in 1,000) removed the natural fats from cotton cloth in eighteen hours, while it took nearly twice as long (thirty-four hours) to remove tallow. It is immaterial whether the strong or weak caustic be used, as it was found to take just as long to remove tallow with one as with the other. Soda ash takes longer to remove fats than caustic, as might naturally be expected.

A 1 per cent. solution removed natural grease in thirty-two hours; a 2 per cent. solution took fourteen to thirty-six hours respectively. It was found that the addition of rosin facilitated the removal of the fats; a mixture of 5 caustic, 2¼ rosin, and 1,000 water removed both fats in eighteen hours. With double the caustic six hours only were required; on the other hand, while rosin and caustic removed the fats quicker than the caustic alone, a mixture of soda ash and rosin removed the fats rather more slowly than soda ash alone, a somewhat curious result.

Caustic lime has evidently some strong saponifying properties, as it removed the natural oils in six hours, and tallow in twelve. Baryta was also used, but the saponification was not complete even after thirteen hours. Heating to 120 deg. C. quickened the action of saponification, as might naturally be expected. In four hours the natural fats were removed, and in sixteen hours tallow was removed. A good circulation of the liquids was found to be essential for a complete removal of the fatty matters. A spot of cottonseed oil was removed in eight hours by being boiled in 1 per cent. soda ash liquor, and when this piece was dried and wetted the spot became wet, while the surrounding cloth was not, the inference being that the cottonseed oil gas brought about the saponification of the natural fat where it was in eight hours, while without it it would have taken thirty-two hours to remove. It was found that mixing an easily saponifiable fat with a difficulty saponifiable one facilitated the removal of the latter. A mixture of oleic or stearic acid with tallow was removed in one-third of the time the tallow alone would have taken, so that the fatty acid must have considerably increased the saponifiability of the tallow.

Mineral oils were also experimented upon. These oils are not saponifiable, and are not removable completely by boiling with alkali, but if they are either mixed with fat oils or fat oils be rubbed over the mineral oil stains, the latter can be removed almost completely. Experiment showed that the less fat oil there is, the more difficult it is to remove mineral oil from cloth, and that to ensure complete removal the two oils must be mixed in equal proportions. By mixture with the fat oil the mineral oil is enabled during saponification to form an emulsion, and so is mechanicallly carried away with the aqueous liquors. This would seem to show that when a bleacher has found mineral oil in the cloth he is bleaching, the best way to extract it would be to saturate the cloth in olive oil or oleic acid. The greater utility of rosin soap over pure soda is probably explainable by reason of its emulsifying powers being greater.

Lime is also known to be an active scouring agent, and this may be explainable by the lime forming an insoluble lime soap, which adheres to the cloth and attracts to it fatty and other matters in a mechanical manner, so facilitating the removal of these bodies from the cotton cloth.—*"Textile Mercury."*

Constancy of The Weight of Musk.

A very general opinion, found in most treatises of elementary physics, is that a grain of musk willl diffuse a very strong odor for a number of years without losing weight. This opinion, however, is contradictory to the law of the preservation of matter and the notions, which are to-day admitted, as to the way in which odors are spread. It is, indeed, known that a body is considered odoriferous which, in a state of vapor, strikes the olfactory nerve and communicates to the brain the sense of smell. After that, an odoriferous body, whatever it may be, continues to decrease in weight, this diminution becoming more and more pronounced as time proceeds. Notwithstanding, however, the very precise scales heretofore employed, it was impossible to detect the slightest diminution in the weight of a fragment of musk exposed to the air, even after a very long time.

An eminent Italian experimentalist, Mr. Salvioni, has recently given some interesting information as to this constancy of the weight of musk in air. In the first place, he endeavored to substitute a more precise apparatus for the ordinary scales, which would enable him to estimate more exactly the smallest difference; this instrument is known by the name "microbalance," and is a kind of steel-yard which is perfect to a nicety. Its

essential parts comprise a glass thread or a very thin steel ribbon fixed at one end, the body, whose weight it is desired to ascertain being placed at the other end, which is free. This body naturally causes the thread or ribbon to bend, by means of mieroscopieal observation, enables one to find out the weight of the slightest amounts, and thus to arrive at the variations whieh this weight will undergo as a result of various influences.

To give an idea of the hygrometrical combustion of the air, the following experiment of M. Salvioni's may be mentioned:—He experimented on one decimetre of musk, which he left in dry air, with the objeet of its evaporating, for 200 hours; a slight loss in weight was detected, which was, however, appreciable on the "mierobalanee;" but if eonveyed to damp air immediately afterwards and allowed to remain there for an hour, it was then found that this morsel of musk regained its weight of one decigram. Therefore within an hour the musk absorbs from the air sufficient moisture to make up for the loss in weight brought about by evaporation during a far longer time in dry air. This experiment, whieh has been confirmed by numerous others, is deeisive.

An apparent anomaly therefore disappears, which is unique in the history of the diffusion of odors. Musk, therefore, acts the same as all the other odoriferous bodies; in time it loses weight when exposed to the air, but this loss of weight is aecompanied by an absorption of water from the dampness of the atmosphere, and these are the two actions which led ancient physicians to suppose that musk retained an invariable weight when exposed to the air.—*Oils, Colours and Drysalteries.*

QUESTIONS AND ANSWERS.

In this column we shall print questions of general interest submitted by subscribers and invite replies to the same from our readers, which will be printed in the next issue of this paper.

QUESTIONS.

QUESTION No. 31: Has any one succeeded with any of the Leseas oils for the purpose of treating mineral oils so that they can be saponified? F.

ANSWERS.

To QUESTION No. 27: We have received the following two replies to this question:

(1) Your inquirer is in all probability looking for something that does not exist; have never heard of a calcium chloride test for soaps and fatty acids. Ask him to be more explieit; what does he wish to test for? The only use for ehloride of lime in a soap factory that we know of, is that it is sometimes employed for bleaching soap and nigre.

(2) I cannot imagine how calcium chloride could be applied for testing soaps and fatty aeids. I wonder if the enquirer is not looking for deseription of hard-water test in which caleium chloride and standard soap solution are used to determine degree of hardness of water. If so, he ean find it in Roscoe & Schorlemmer's Treatise on Chemistry, Vol. I, page 250.

To QUESTION 29: All usually required to reeover fatty matters from soap used is a wooden or lead lined tank in which the waste water ean be treated with sulphuric acid; this tank is best provided with a steam coil. The amount of acid used depends altogether on the amount of alkali to be neutralized and the time for boiling is two hours at the most. The fatty acids regained are in various states of impurity and the maehinery required for further treatment ranges all the way from a mere filter to a distilling plant.

To QUESTION 30: Castor oil, having a saponification number of 180, will yield about 145 pounds of soap as eompared to about 150 in ease of tallow; it will be quite a soft soap at that, so that only a small proportion of it can be used with other stoek.

ANSWERS IN BRIEF.

O. H. of Berlin: Besten Dank!

J. B. of Ill.: The postoffice informs us that you moved without leaving new address. If you see this, please give us directions for filling your subseription.

PATENTS AND TRADE-MARKS.

The following list of recent Patents and Trade-Marks is reported by W. G. HENDERSON, Solicitor of American and Foreign Patents and Trade-Marks, Norris Bldg,, Washington, D. C. A copy of any of the following will be furnished by him for 15 cents.

PATENTS.

708,877. Soap-holder. John P. Eustis, Newtonville, Mass.

708,652. Reservoir for dispensing liquid soap. Elmer Lee, New York, N. Y.

708,920. Device for washing diapers. John W. Reed, Greensburg, Pa.

TRADE-MARKS.

38,886. Laundry cream. Louis Lochman, Jr.,, New York, N. Y., the word "Waxole," appearing on a rectangular background.

38,887. Certain named cleaning and polishing compounds. The Brunswick-Balke-Collender Co., Cincinnati, Ohio, and Chicago, Ill. The word "Easybright," represented on a signboard held up by a lion rampant.

38,851. Laundry Soap. The N. K. Fairbank Co., Chieago. The words "Lone Star."

LABELS.

9,438. Title: "Van Winkle's Medicated Soap." (For Medicated Soap.) Edward Van Winkle & Co., Battle Creek, Mich.

AROUND THE SOAP FACTORIES.

News-items sent us by our readers will find prompt attention in this column

J. H. Farnsworth and F. C. Farnsworth of Chicago are reported to have secured an option on two lots in Minneapolis, with a view of erecting a four-story soap factory to cost $45,000. L. H. Bradshaw is the representative of the Chicago men in Minneapolis.

The Camden and Philadelphia Soap Co., Philadelphia, Pa., capital $200,000, has been incorporated by P. W. Hirst, M. W. Hirst, J. L. Garwood and others.

The Minnesota Soap company will build a $5,000 addition to their building on the corner of Eagle and Spring streets.

Judge McPherson, in the United States District Court at Philadelphia, and Judge Kirkpatrick, in the United States District Court at Trenton, have appointed A. K. Brown, of Philadelphia, and Henry I. Budd, of Camden, N. J., receivers for the American Alkali Company. Mr. Brown is president of the company. Announcement was made by the rehabilitation committee of the company that the plan for reorganizing the concern had become inoperative. Efforts to reach an agreement with the Commercial Development Company of England upon a settlement of the $50,000 note held by that company having failed, the committee decided to apply for receivers.

The Diamond Soap Mfg. Co., of Rome, N. Y., has been dissolved, William Sehneible retiring. The business will be continued by Marcella and Richard Keefe.

Incorporated: The Federal Soap Company, Chicago, to manufacture soap, soap powder, etc. Capital, $10,000. Incorporators: Edward Lewis, Alpha Bodkin and Frederick Benjamin.

Ben Bowden of the Beaumont Soap Co. and W. A. Mott, soapmaker and chemist of the firm named, have returned home from a vacation at Atlantic City and have taken to hustling around the factory again. Business in the Mayfield factory is humming.

Incorporated: The Rock Oil Soap Co., Oakland, N. J. Capital, $24,000. Incorporators: Alfred R. Bradley, Samuel Hatt and Maross Jenkins.

Under date of July 5, 1902, Commercial Agent R. T. Greener writes from Vladivostock:

A new soap factory is to be opened at Vladivostock. Most of the soap has heretofore come from European Russia. The new factory has an encouraging opening. The owner lately sold 2,000 poods (72,224 pounds) and has 4,000 poods (144,448 pounds) in stock. He makes three qualities of soap—blue, yellow and green. It is said they equal in grade those soaps imported from European Russia. After building his factory, the owner found that the necessary grease had to come from abroad, and there was an almost prohibitive duty on it. An appeal to St. Petersburg resulted in a decree permitting the grease to be imported duty free.

In a terrific explosion in a 750-gallon rendering tank in the Bernhard Lichtenheld soap factory, a portion of the north wall from the ground to the roof, and 20 feet wide, was torn out on Sept. 4, at Racine, Wis.

A large area of floor was torn to pieces, and a portion of the roof blown into the river. The large iron tank was torn from its foundation.

Louis Liehtenheld, the engineer, son of the owner, narrowly escaped instant death. He was standing but a few feet away from the tank when the explosion occurred. He was starting the fire, and claims to have had only 40 pounds pressure. The damage is considerable. There is no insurance. Business will be resumed when repairs are made.

Incorporated: The Glendale Manufacturing Company, at Hoboken, N. J., to manufacture soap. Capital, $15,000. Incorporators: Charles W. Thomas, Nutley, N. J.; Theo. A. Harnes, Jersey City, N. J.; Paul T. Conord, Brooklyn, N. Y.

The Paeker Tar Soap Co. has bought a lot near the depot in Mystie, Conn., and is erecting a briek building to serve as a factory hereafter.

The Nelson Soap Co. of Chicago will move its works to Iowa City, Iowa, a company capitalized at $25,000 having been organized for the purpose, and local business men have taken a part of the stock. The removal is to be effected without delay and the factory is expected to be in operation by the middle of October.

Incorporated: The American Green Oil Soap Co., Chicago, Ill., capital, $2,500, by John J. Rooney, R. L. Peek and A. J. Rooney.

The Birmingham Cotton Oil Mill has recently sold its property, valued at $40,000, at Birmingham, Ala., to the Kentucky Refining Co., Louisville. Fred H. Vernon, manager of the former concern, will continue in this capacity with the new company.

Now the bone and tallow men have begun to deny that they are thinking of selling out to a combination

and one or two have already gone so far as to decline to discuss a report that they have done so. In a week or so the promoter will probably show his head, if not his hand.

Alex. P. Mende, the manufacturer of the Vacuum Drying Chamber advertised in these pages, has organized the American Vacuum Drying Machine Co., with the works at New Hamburgh, N. Y., and an office in New York City.

The Kentucky Refining Co. of Louisville will build a cottonseed oil mill at Ozark, Ala.

Victor Klotz, the head of the Parfumerie Ed. Pinaud, Paris, has been raised to the dignity of the Officer of the Legion of Honor by the French Government. This high distinction is very seldom obtained by business men in France.

The Connecticut State Butchers' and Grocers' Association has had under advisement for over a year a plan for the erection of a $25,000 tallow rendering plant where the members in the retail meat business can send their fat to be rendered and perhaps made into soap.

The organization is announced from Jacksonville, Fla., of the Consolidated Naval Stores Co., with a capital stock of $2,000,000 and headquarters at Jacksonville. The organizers are some of the leading naval stores factors.

Incorporated: The Berry Buoyant Soap Company, Chicago; capital, $50,000; manufacturing soap and by-products; incorporators, James H. Raymond, Frank H. Drury, and E. Shasberger.

A thousand boxes of "Diamond C" soap stored in the C. L. Anderson Mercantile Co.'s storehouse, Denver, Colo., proved too great a weight and the end of the building caved in, throwing the soap all over the ground. Just what happened then is variously reported: It appears that a gang of tramps were awaiting the approach of a train which passes the wrecked building and which they intended to board under cover of the prevailing darkness; news of the accident reached them promptly and while some of them could not overcome their natural aversion to soap and would have nothing to do with it, others saw in the accident one of those opportunities which come to a man only rarely and need to be grasped promptly to make one's fortune—in other words they began to carry off the soap for speculative purposes and were joined in the affair by poor people living in the vicinity. Before they were stopped a hundred boxes of soap had disappeared.

Joseph E. Berry has enlarged his soap building near Farmington, Me., and is putting in new machinery, that he may meet the increasing demand for his washing powder and soap.

An attempt is being made to establish a soap manufacturing establishment in Cripple Creek. The head of the movement is S. F. Nockersmith of Marshalltown, Iowa. For years the gentleman has been engaged in the manufacturing of soaps, dyes, etc., and he believes there is a very profitable field for such an establishment in Cripple Creek. He will endeavor to interest local capital but will also invest his own money. He claims that the business of the district itself would bring a large profit upon the money invested.

The schooner Freeman, on its way from New Bedford to the Cape Verde Islands, is said to have picked up a lump of ambergris weighing 145 pounds.

The matter of declaring the soap factory of the L. Hemingway Co. at New Haven, Conn. a nuisance and ordering its removal is still haunting the board of health of that city. At the meeting a few weeks ago the board voted that the place was a nuisance and should be attended to. A delegation of 25 of the residents of the neighborhood appeared before the board and gave their statements as to the condition of the place and the nuisance arising therefrom. Representatives of the company also appeared and gave their side of the case. The board finally decided to lay the matter on the table until a later meeting.

The Charlestown, Mass., Board of Health controversy about the alleged soap factory nuisance has ended in the latter agreeing to make alterations that will overcome the trouble complained of.

According to the Muncie, Ind., Morning Star, the soap factory of W. W. McDonald of that city has been granted permission by the trades council to use the Union Label.

According to advice from Texas Swift & Co. have purchased six cottonseed mills in central Texas in order to supply its refinery at Fort Worth.

The Kehew-Bradley Co. is erecting a grease and oil refinery at Salem, Mass.

Latest Additions to Our Brand List.

344 Home Soap Co., N.Y.
345 Columbia Ref'g. & M'f'g Co. Ltd., New Orleans.
Antillia 2
Beauty Belle 115
Bell's Brown 343
Blue Chip 340
Blue C oud 2
Blue Coco 340
Blue Family 340
Blue Monday 340
Blue Olive 340
Chlorine 340
Cleaneasy 286
Dactylis 11
Dermicura 327
Empress Eugenie 115
Eueryl Eueryl Ltd., Hull, England.
Evergreen 286
Facine 340
Fairbank's Primrose 2
" Scouring 2
" German Fam. 2
" Glycerine-Tar 2
" Mottled Germ'n 2
" Olive 2
" Navy Blue 2
Federal Family 1
Floral Feast 115
Flannel 2
Flip 345
Fragrant Honey 2
Geyser 343
Gold Seal Soap Flour 340
Green Olive Chip 340
Green Palm 340
Green Seal Chip 340
Gusher 340
Hard Maple 155
Iroquois Maiden 115
Jewel 2
Kazan 343
King Solomon's Rock Oil S. Mnross Jenkins, N. Y.
Lakeside (Scouring) 2
Limberine, E. A. Warren, St. Paul, Minn.
Lion 2
Long Shot 345
Madeira 16
Madeira Almond Cream 16
Madeira Cucumber Cream 16
Madeira Lettuce Cream 16
Madeira Olive Cream 16
Marveline 300
Mentholatum Corn Oil S. 169
Michigan Family 2
Next-To. Phoenix Chem'l Co. New York.
Palm Oil S. Powder 340
Palm Soap Flour 340
Passion Rose 298
" Violet 298
" Pink 298
" Lily 298
Peach Blue 340
Perfecto 121
Plantol Lever Bros., Limited Port Sunlight, England.
Premium, Davenport (Iowa) Soap Co.
Premium W. Powder, Davenport (Iowa) Soap Co.
Preventionette, Willard Chemical Co., Malden, Mass.
Rex Cremo 340
Rex Family 340
Rex Liquid Soap 340
Rockford Scouring 2
Santa Rex Castile 2
Sentinel 340
Sorosis 340
Star Mottled 2
Success Scouring Sand Soap Tacony Soap Co., Phil'a.
Sweet Blossom 2
Trash Mover 286
Twin 2
White Fairy 2
White Pine Castile 344
Windsor 2
World's Fair 2
Yellow Palm 340
Credential Shaving Stick 16
Vestal Lilac 16
Vestal Carnation 16
Durango Best, Durango (Colo.) Soap Co.
Napthol 340
Noxlabor 340
Ilo Ilo 340
Oxolive 340
Oxigen 340
Rexolene 340
Rexolive 340
Palmo 340
Pen Yen 340
Pony Up 340
Two Jacks 340
Anty Up 340
Frog 340
Jack & Jill 340
Yellow Dog 340
Tode 340
Billy-Goat 340
Horse Oil Harness 340
Noxwork 340
Cloths Pin 340
Cloth Pin 340
Jack Pot 340
Nolabor 340
La Mariposa 54
Angelus 54
Idyllwild 54
Climax Chip 54
Helix 54
Lasco Napthol 54
Mexicano 54
Parisian Toilet 54
Lemolive 54
Lemola Toilet, Lemola Soap Co., Los Angeles, Cal.
Last Long 286.

The Markets.

TALLOW.—New York City in hhds. held at 6¼c; in tierces 6½c; market still continues rather quiet and buyers inclined to hold off except for present needs, a period of lower prices being expected; sales of country-made at 6⅛ to 6½c, as to grade. Western sales reported at 7⅛c to 7⅝c for prime packers.

GREASE.—Trading rather restricted. "A" white, 7 to 7¼c; "B" white, 6¼ to 6½c; bone and house, 5½ to 5¾c; yellow, 5⅛ to 5½c.

COTTONSEED OIL.—Last sales at New York at 40 to 40½c for prime yellow; 39c bid for early part of October.

CORN OIL.—5¼ to 6c as to quantity; demand still quiet.

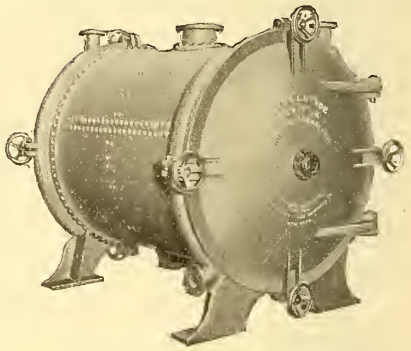
COCOANUT OIL—Ceylon held at 6⅝ to 7c spot; 6½c asked for stock to arrive in October; Cochin, 8¼c asked for spot, and 8c for supplies under way.

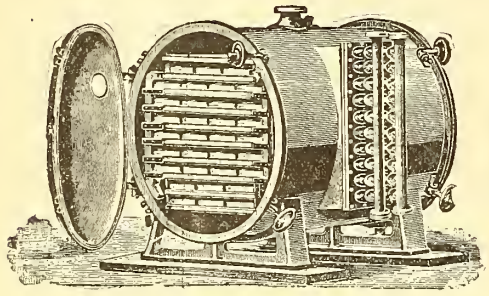
OLIVE FOOTS.—5¾c for spot; 5½ to 5⅝c asked for goods under way.

PALM OIL.—5⅜ to 5½c for prime red oil; 5¾ to 6c for Lagos as to grade. Palm Kernel oil 7c.

RED OIL—6¼ to 6½c for Saponified; both supply and demand are still rather restricted.

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ALEX P. MENDE, Patentee and Builder

Office, 125 East 62d Street, New York.

The American Soap Journal & Manufacturing Chemist.

A MONTHLY JOURNAL OF THE MANUFACTURING CHEMICAL INDUSTRIES.

DR. HENRY GATHMANN, PUBLISHER, 2707 North Ave, Milwaukee. **MILWAUKEE, WIS., November 1, 1902.** VOL. XIII. No. 3.

THE

AMERICAN SOAP JOURNAL

AND

MANUFACTURING CHEMIST.

PATENT OFFICE

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The AMERICAN SOAP JOURNAL AND MANUFACTURING CHEMIST is devoted to the interests of all manufacturing industries of a chemical character, and is an absolutely independent publication. It is the only newspaper of its kind in America and has also a large foreign circulation.

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Readers in search of machinery, supplies etc., not advertised in these columns, are invited to write us and we shall endeavor to supply the information.

Address all communications to

DR. HENRY GATHMANN, Publisher,
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MILWAUKEE, WIS., U. S. A.

At the annual convention of the Laundrymen's National Association, held in Washington, D. C., October 13, 14 and 15, the question was discussed whether or not it was worth while to look for measures having in view the recovery (from the waste water) of the soap that had been used in laundries. One member reported that his firm had had a chemist make experiments in that direction and that the result was the conclusion arrived at that the cost did not warrant the effort.

At the same convention the method of buying soap according to the fatty acid contents was discussed (particulars appear on another page of this paper), and it must be said that the discussions on soap, as they occur from year to year at these conventions, show unmistakably that the laundrymen in general are steadily acquiring a better insight into all that is connected with soap.

When we printed that item recently of there being enough fat in the average human body to make 4½ pounds of soap, the worst thought that came to us was the quotation: "To what base uses we may come." The Southern Drug Journal picked it up from a more practical standpoint and solilloquizes thusly:

"It is said that the human body contains materials for making 4½ pounds of soap It seems to us that it is a pity that some human bodies are not turned into 4½ pounds of soap, or something equally useful."

On another page appears a letter from an Australian subscriber (whom we hereby thank for it) on another addition to our list of uses for soap.

It is estimated that this season's rosin crop will fall at least 10 per cent. short of that of the previous season, which itself had been far short of previous seasons. The producers insist that not only is suitable timber scarce, but so difficult to locate that manufacturing cost is greatly increased thereby, to say nothing of higher cost of labor. If this is true, and there seems to be no question as to that, the further restriction of the crop imposed upon its members by the Turpentine Operators' Association must be considered a wise move, as a temporary expedient at least. Recklessly wasting the timber, only to lead to overproduction with consequent disastrous competition, in the case of so important a nat-

ural source of wealth, is certainly inexcusable from every point of view. With the assistance and encouragement recently given by the government, and improved manufacturing processes fully discussed in these columns lately, it is expected to be possible to preserve the pine forests for a long number of years, while until recently it was obvious that the wasteful methods in vogue, if persisted in, would destroy all of our available pine trees in little over ten years from now. This subject being of vast importance to our subscribers, we publish on another page the speech of Governor Jennings, of Florida, delivered before the Turpentine Operators' Association, and containing a great deal of reliable and important information.

Any industry that has not by this time been talked about as a subject for the trust or combination promoter, must be most utterly beyond hope of ever being so organized. The promoter's profession, in fact, seems to be overcrowded, and the field for its usefulness has been picked almost threadbare.

One of the much talked about corporations of late is the witch-hazel combination proposed several months ago, and an invitation to subscribe for its stock was issued some weeks ago. Judging from the prospectus issued, the offer of any of the stock for sale was one of the most stupendous acts of philanthropy in American history, for the profit that was to accrue to purchasers of the stock was something enormous.

A little later the stock was advertised "to druggists" with a special inducement attachment; that is to say, every druggist buying 200 shares at 50 cents per share, was offered as a premium one gross pint bottles of witch hazel extract, said to be worth (at retail price) $72, but claimed by those supposed to know not to bring more than half that at retail. However that may be, chromos thrown in with shares of combination stock do not inspire confidence.

Promising though the outlook appeared from the prospectus, the picture is very different when viewed in the light of statements emanating from firms that have not entered the combination. According to them the profits of the business were exaggerated in the first place. Further, the prospectus added that options had been acquired "on all concerns now engaged in the manufacture of witch-hazel extract and kindred products, with few exceptions;" it is now pointed out that these "few exceptions" comprise, among others, one firm which alone controls about half of all the witch hazel made in the world, and also another firm which is considered the second largest producer, and also two or three other very large concerns. Again, the ease with which new independent plants could be started anywhere at all is what has kept the large firms from attempting to increase profits unduly by entering any combination.

We are inclined to "take stock" in the representations of the independent firms rather than in the combine—even with a gross of pint bottles thrown in with each $100 worth of shares—but what most attracts our attention is the fact that not every industry is carried away by the prevailing excitement over mergers, corporations, combinations, trusts and similar organizations. The end of successful combinations is not yet, but there is a limit to them.

On this subject of combining forces in various ways the following from the Modern Grocer is quite appropriate:

"In the matter of co-operative purchasing, we are told of the experience of a number of Wisconsin druggists who formed an association and appointed one of its members their purchasing agent. The plan worked well. By large buying this dealer was able to secure prices usually given to the jobber, and all of the retailers profited thereby. It was soon learned, however, that the dealer who was acting as buyer was a very attractive personage in the eyes of the traveling salesmen. His store became more heavily stocked than was its wont and his bank account became longer and stronger. It was found that while he was getting the prices desired by his brother druggists, he was accepting personal presents from salesmen to such an extent that it cost him practically nothing to keep up his stock. Then poor, old, decrepit human nature came to the front. The retailers disbanded, resumed the payment of his prices and lost profit just to keep this one from being especially benefited. The dog in the manger barks again."

A Chicago firm has been posted on the New York Produce Exchange for conduct "inconsistent with just and equitable principles of trade," and has been barred from representation on the floor of the Exchange. The specific cause of trouble leading to this action was a shipment to Welch & Welch, of New York, of a car of naphtha grease, which turned out to contain 81 per cent. or impurities. The Chicago firm explains that they sent samples of this lot of grease to New York and made the sale according to sample; that the samples having proved acceptable to the buyers, and the goods being equal to the sample, they feel that the charge of uncommercial conduct is not justified.

Assuming the transaction to have been just as here stated, the risk of buying according to sample, without examining that sample as thoroughly as the goods them-

selves will be examined, is once more emphasized. The presence in the market of grease containing 81 per cent. of impurities is also emphasized.

A certain expert once discovered and proclaimed to the world a method of doing a certain thing in a laborious and withal uncertain manner, although there were already four or five other, simpler, and surer methods in every day use to accomplish the same thing. The only explanation for his action was that, being ambitious to invent something at any rate, and finding the best possible methods all invented beforehand, he invented the worst way rather than nothing at all.

This story comes to our mind very often when we read the patent papers concerning some newly invented soap, for on no other theory can the inventions be accounted for which these patent papers disclose. Slightly strange it seems, however, that these inventors pay the not inconsiderable fees to obtain patents for their silly inventions; certainly these fees must be called not inconsiderable, inasmuch as the inventors are evidently not prosperous business men as a rule.

Now and then we have printed the specifications of patents of this class, merely as a diversion, but none was stranger than one that now comes from the French patent office. According to this, a French patent has been granted to a M. Klump, on making a filled soap by the process of "saponifying the fat by 20 to 30 degree soda lye and adding a suitable quantity of salt to separate." We hardly trusted our eyes on reading that this process had been really patented in France, but several slightly varying examples given (in explanation) in the papers are to the same effect. For instance, one example calls for 100 lbs. tallow, 300 lbs. palm oil and 40 parts rosin; saponify with 4 lbs. 98 per cent. calcined soda in 20 lbs. hot water and 214 lbs. 40 degree caustic lye, separate by salt, and there you are.

If there is anything tiresome in soap literature, it is that irrepressible story of a natural soap mine discovered "out West." We first heard of it about fifteen years ago and soon saw it bob up in numerous variations in German, English and French papers. After a few years' rest it was revived in Spanish and Italian trade papers. Becoming more and more phantastic as it was passed along, it has been telegraphed from Iceland to the Fiji Islands 3 o'clock Extra, and reaching Idaho on its second trip around the world it went via the Panama Canal to Nijni Novgorod and Timbuctoo and then seemed successfully lost. But here it breaks out again with redoubled fury from a padded cell in Cheyenne, Wyoming!

The Cheyenne Sun-Leader of Sept. 18, and the New York Commercial Advertiser of Oct. 11, each give a half-column to an account of a "wonderful deposit" of soap discovered six miles north of Newcastle, Wyo. A few features of these reports that did not appear in the original of fifteen years ago, are as follows:

"Newcastle, Wyo., is to become one of the greatest soap producing centers in the country."

"J. L. Griffin has been sent out to investigate the find by Armour & Co., and says there is no doubt of the purity of the soap."

"We have tested it in soap, having sent thirteen cars all told to Chicago and Minneapolis." (Who 'we" are the report does not clearly say.)

"The material is an excellent filler for soaps and paper." (If there is "no doubt of the purity of the soap," why use it as a filler?)

"Through the Denver Chamber of Commerce three of the largest soap manufacturers in the country have been interested."

"The soap has no grit, does not lather, but cleans and beautifies the skin as no other manufactured soap ever did."

"No chemical analysis is available, but the secretary of the Chamber of Commerce declares it is at least 99 44-100 pure." (Could any chemical analysis beat any such guess for closeness?)

"In its raw state, only prepared in paste, the soap makes an excellent scalp cleaner, removing all dandruff and stopping the falling hair at one application. Tests now in progress are expected to reveal a splendid hair restorer. The paste polishes nickel, brass and silver to a mirror-like reflection."

So far as we can ascertain, these natural soap mines contain simply more or less pure "soapstone"; we had a sample from such a mine given us years ago by Mr. Geo. A. Schmidt, of Chicago, to whom it had been sent as a curiosity, and while it had some peculiar characteristics and on a pinch might possibly be made to assist a little in washing in a purely mechanical way, the wildest flights of our imagination could not show us any resemblance to soap. We are glad it was found such an admirable hair restorer—if that story comes this way much eftener, we shall need a lot of it.

Here is a new trick, just come from England. A canvasser, working a certain district for a soap manufacturer, asked a housewife if she had saved any soap wrappers issued by the firm. When he was informed that she had five less than ten dozen, he succeeded in selling her five bars of soap, to make up the full ten dozen of wrappers. These wrappers he declared himself to be authorized to collect, promising that the firm would in return send her a prize at Christmas. Then he was allowed to take the ten dozen wrappers along, which he did, and he

promptly sold them to a grocer for two shillings. At the police court he got the worse end of the bargain, however, for he had to pay ten shillings fine and four times as much in costs.

We have just read, in a special issue of the Oil, Paint and Drug Reporter, a full account of the convention of the National Wholesale Druggists' Association, held last month, and we wish to make a few remarks on this occasion. For one thing we wish to express our sincere admiration for a contemporary able to mail from New York, on about the 20th of October, a full report, consisting of 36 large pages of fine print, of a convention held in California on the 7th to the 11th day of that month.

We also tender our compliments, equally sincere, to an association of representative business men who not only have such an able and energetic newspaper perform such a service for them, but who do not hesitate to place a newspaper devoted to their interests in a position where it *can* perform such a feat; there are associations of business men who still believe that no news of their proceedings must be allowed to thus be made public.

Most of all, however, the wholesale druggists are to be congratulated upon the fact that at this, their twenty-eighth annual gathering, they have displayed such an amount of important activity for the common welfare as was reflected from the committee reports and general proceedings. A great part of the latter is of no direct interest to the soap trade, but as a whole it is a noteworthy example of what can be accomplished in an association of business men. Of much interest, however, to soap manufacturers, and showing an example of how thoroughly the various committees have performed their labors, is the report of the Committee on Trade-Marks. This report we take the liberty of copying on another page.

The following story is printed in Cassier's Magazine:

"——after dinner the party of visitors was taken through the shops. Coming to the new gas engine their host explained its workings at some length, winding up with the statement: Using it instead of steam saves $1,300 a year."

"And what do you do with it?" asked the bright young lady of the party

"We run the shop with it. It furnishes the power for everything upstairs. The wind in the blacksmith shop is made by it. Everything you saw turning around in the works is turned by it. You see, we save room, attendance and fuel; we save in getting the fuel in and the dirt out. It is a great thing for us in our business. You can see that, for it saves us $1,300 a year." And he bowed cheerfully to his fair questioner.

"Now that is very nice," she replied. "I am glad to hear it. And what do you do with it?"

Thinking he had not made his meaning clear, the shop owner very patiently went over the ground again, telling how it was necessary to have some means of getting motion; telling of their use of various methods, giving the advantages and disadvantages of each, and after having done his best wound up with the strong point of the saving caused by the last method.

"That is very interesting, very interesting indeed, and what do you do with it?" asked the young lady once more.

With a strong effort to think of a way to put the matter in a simple form he began again: "You know, it is necessary for us to have something to run our shop, to make the wheels go round——"

"Yes, yes, I see all that; but what do you do with the $1,300 you save every year?" and the young lady looked around in an enquiring way, as though expecting to see it stowed away somewhere.

The saving, the owner of the shop says, is real enough, still it seems just as hard to be ready for pay-day and to find money to pay the bills, as it ever was.

There is not a soap manufacturer who does not all along save money by improving methods, by buying a little cheaper than he used to or at least at a favorable market, by cutting down expenses, and so forth. How many are there who could tell at the end of the year "what they did with it?"

The Newburyport Herald says that "The laundries may have to pay more for their fuel, but the increase of their business caused by the use of soft coal will enable them to come nearer than most people to squaring the account."

But the soap manufacturers in that case will be a close second.

Regulations have been prepared by the Treasury Department, providing for the payment of a drawback of duty paid on imported tallow used—in connection with certain materials of domestic production—in the manufacture of soap. A point of special interest in the case which led to this ruling was the circumstance that the manufacturers of the soap declined to fully state the methods and ingredients employed by them, thereby making it specially difficult to frame drawback regulations satisfactory to those in charge of the government's customs interests, the more so since it is very difficult under the circumstances to ascertain by analysis the quantity of imported tallow present in a given soap. It was, however, decided that the customs officials are authorized to accept properly certified records of manufac-

turers as evidence of the use, as claimed, of imported tallow in the making of the soap exported.

The regulations provide that in no case shall the drawback allowed exceed the basis of twenty-five pounds of tallow for each 100 pounds of soap. The further details appear on another page of this paper.

Perhaps the character of the average export soaps warrants it, and perhaps it doesn't, but it seems curious that these drawback regulations practically limit the use of tallow in an export soap to 25 pounds for each 100 pounds of soap. The new regulations are said to be quite liberal, comparatively speaking, and doubtless they are that in a way, but the restriction here referred to does not reflect as much liberality as does the average soap manufacturer in the use of tallow in his soap.

Another Use of Soap.

ADELAIDE, August 25th, 1902.

Editor American Soap Journal.

DEAR SIR: Referring to your request in the columns of your paper for new uses of soap, the following may be an interesting addition to your collection: On the sheep stations in the interior, life is necessarily fairly rough. The wife of the manager of one was troubled by her boys, when still very small, taking to the use of unparliamentary language, and she advises as a means of stopping this, and making their ways more righteous, catching these youngsters whenever they gave her occasion, and thoroughly washing their mouths out with the suds of common bar soap. She reports that two or three operations worked a cure.

Yours faithfully, C.

Governor Jenning's Speech.

BEFORE THE TURPENTINE OPERATORS' ASSOCIATION AT JACKSONVILLE, FLA., SEPTEMBER 10, 1902.

(Contributed by E. Moulié.)

"Mr. President and Gentlemen of the Turpentine Operators' Association: Age, venerable and gray with years, is always entitled to welcome, to courtesy, to respect. In the days of Noah there must have been naval stores men, for we read of the ark that it was 'pitched within and without with pitch.' Without naval stores there could have been no pitch, and without the primitive turpentine operators no naval stores. This looks illogical, but, perhaps, it was not turpentine operators after all who furnished that pitch, for the pitch Noah used was in all probability asphalt, but if it was the admission takes but a few hundred years from the shoulders of the industry, for it is recorded in history that the ancient Greeks knew the secret of making turpentine by wounding the trunks of the pines and distilling the resin. While turpentine may not be as old as the days of Noah, we know that it dates back many years before the coming of Christ, and it is consequently among the oldest of the recorded industries.

"As the representatives of this ancient industry, I bid you welcome to Jacksonville, the Queen City of our royal state, and to Florida, with a welcome as warm as our fervid sun and as broad as the state itself. We are glad to see you here, glad to have you, glad to do all that lies in our power to make you feel that your welcome is as free as the breezes that sing their peans among the pines from which you draw your wealth. I welcome you as the representatives of a great industry, one that, while it has not in the past proved of lasting good to the state, may, by wise administration, be made a permanent benefit to both yourselves and the state of your adoption.

"Fifteen months ago this beautiful, bustling city, that to-day opens wide its hospitable doors to you, lay in ashes, and the bronze soldier on the monument in Hemming Park stood sentinel over the ruins and desolation that spread almost as far as the eye could reach. Ashes, ruin, nothing but ashes, twisted and tangled wires and grim, smoke-stained tagged walls—not a tree, nor plant, nor blade of grass even, was left of the erstwhile beautiful foliage that made the city a bower of beauty. It looked as I saw it then as though decades must come and go before the city could begin to look like itself again. But while the walks were so hot under foot that walking on them was dangerous, while the ruins were still blazing, the people were looking ahead with indomitable courage, and in less than a week were doing business in shacks and wherever they could find shelter—all at work, determined and happy because it was no worse. Others stricken as they would have sat down to mourn over their losses.

"To-day we see the result of their determined fight against misfortune, a city of splendid buildings, larger, handsomer than before, more convenient, buildings perfectly adapted to the modern business wants. A rushing, enterprising population, business hurrying on and property constantly and rapidly growing in value. From the ruins of the churches and public buildings have sprung stately and beautiful edifices, and where homes were new homes have risen, not, perhaps, with the charms of the old, around which clung sweet memories and sacred associations, but homes—beautiful, comfortable, luxurious—and both homes and all the city will soon bloom with flowers, be verdant with lawns and foliage, and the streets will again be galleries of living green and welcome shade, more attractive, more beautiful than ever before. Nature will give with a lavish hand to help the work of these people. It will not be very long ere even the scars will not be left to show the wounds of the fire. Pardon this digression; I could not

pass this beautiful creation, so lately in ruins, rebuilt and pulsing with life, without some allusion to it.

"A few moments ago I asserted that you were entitled to welcome and respect by reason of ancestry traceable to the ancient Greeks. No. I assert your claim to honored recognition here, because in this country turpentine operators were active in 1768. During the three years ending with 1770 there was an annual shipment to Northern and European markets of 88,111 barrels of crude turpentine, 20,646 barrels of pitch and 88,366 barrels of tar, representing a yearly value of $215,000 in the currency of today.

"The gathering of resin or crude turpentine from the long-leafed pine was among the earliest industries to attract the attention of the first settlers of what now constitutes North Carolina. In those days no attempt was made at distillation, and consequently much of the most valuable and volatile part of the product was lost. After the trees ceased to be of value as producers of crude turpentine the trees met their final end in the tar kiln, and that forest was no more.

"Prior to the Revolutionary War the industry was practieally confined to the district lying between the Tar and Cape Fear rivers in North Carolina, almost the entire product, in its crude state going abroad for distillation. Resin was distilled to some extent in some of the Northern cities; later, distilleries were established in Wilmington, and soon after distilleries began to be established in the forests convenient to the localities where the resin was gathered, but never very extensively, because the process of distillation was seriously hampered by the clumsy iron still then in use. In 1834 the introduction of the copper still led to a largely increased yield of spirits, and the industry grew with amazing rapidity. The methods of distillation have not materially changed for over one hundred years, or, I might say, since the discovery of the volatile principle of turpentine, the system has remained the same, but the copper still and somewhat improved appliances have enabled the operators to get the largest possible yield of spirits of turpentine from the resin.

"For a number of years the Carolinas practically monopolized the naval stores business, which reached its maximum there about 1880, when the two Carolinas exported 5,321,546 gallons of spirits of turpentine and 656,019 barrels of crude turpentine and rosin. It was then that the depletion of the forests sent the operators in search of new fields; these they found in Georgia, which the industry entered during the fifties, the records of the customhouse at Savannah showing that 364 barrels of turpentine and rosin were exported in 1856. In the forests of Georgia the operators found apparently inexhaustible resources, which they proceeded to destroy in the most wasteful and reckless manner. The sources of supply was immense, but not limitless, as you, gentlemen, found out in a very few years. Moving westward, the first indications of the industry found in Alabama are in the census returns of 1850, when four establishments, with a product valued at $17,850, were reported. In 1900 there were 152 plants in Alabama, with an output valued at $2,033,705. Mississippi showed up first in the statistics of 1850, with five establishments, with products valued at $19,680; in the same year Louisiana reported but one plant, with a product valued at $1,750. In 1890, Mississippi reported 145 establishments, with products valued at $1,772,435, while Louisiana had but ten establishments, with an output valued at $115,324.

"The growth of the industry has been most marked in our own state. In 1850 only five establishments, with an output valued at $29,671, were reported; in 1860, the value of the product of these five plants had grown to $100,676. The war destroyed the industry, there being in 1870 but two establishments reported, with an output of $26,116. In 1880 these had grown to ten, with a product valued at $295,500. Fifteen plants in 1890 produced only $191,859, but in 1900 there were 366 establisthments producing 236,778 barrels of spirits of turpentine, valued at $4,800,003; 772,537 barrels of rosin, valued at $1,637,472, and other products valued at $30,100, making a total for the turpentine output for Florida pine trees for the year 1900 of $6,469,605. This year the product will approximate $10,000,000, if it does not exceed that amount.

"In 1888 the urgent demand for spirits of turpentine and rosin in the various fields of industry, sueh as the manufacture of paint, varnish, paper, soap, lubrieants, pharmaceutical preparations, for illuminating purposes and in rubber factories accounts for the unprecedented growth of the industry in the last few years. In the uses named above 'naval' does not occur a single time. The use of tar and pitch in the construction of ships in this and the old country gave rise to the general term 'naval stores.' Now, such a small proportion of the product is used for shipbuilding that the term has become a misnomer, but nevertheless you will all be 'naval stores men' to the end of time, or until the final destruction of the pine trees from which you draw your stores.

"The turpentine industry of the United States has, from its first institution, been confined to the long-leafed pine belt of the United States, embracing the States of North and South Carolina, Georgia, Alabama, Mississippi, Louisiana and Florida. In 1850 North Carolina had 785 establishments; South Carolina, 40; Georgia, 14; Alabama, 4; Mississippi, 5; Louisiana, 1, and Florida, 5; total for the United States in 1850, 856 establishments, with a capital of $1,663,692, and products valued at $2,855,657. In 1900 North Carolina had 174 establishments; South Carolina, 132; Georgia, 524;

Alabama, 152; Mississippi, 145; Louisiana, 10, and Florida, 366; total, 1,503, with a capital of $11,847,495, with products valued at $20,344,888; Florida now stands first on the list and Georgia second.

"The turpentine industry paid to the operators in Florida in 1900 the handsome sum of $6,469,575, and the operators paid to the state in taxes the sum of $38,-934.

"During the decade ending with 1900 the average export of spirits of turpentine was 15,504,433 gallons, and 2,070,330 barrels of rosin, tar, etc. The world comes to the United States, to the pine belt, for its naval stores; the records of the ports show that we shipped naval stores in 1900 to the United Kingdom, to all the countries of Europe, Germany included, British North America, the Central American States, British Honduras, Jamaica, Porto Rico, Cuba, all the countries of South America, the Chinese Empire, Japan, Asia and Oceanica, including Australia, and to Africa. The world is our market. Naval stores are a necessity, and it is for you, gentlemen, to supply this need, to control the market, to protect, cultivate and foster the industry, and to perpetuate the forests.

"In 1900 the total product of spirits of turpentine in the United States amounted to 754,670 barrels, valued at $14,660,235; 2,563,087 barrels of rosin, valued at $5,-129,268, and other products valued at $255,385; total, $20,344,888. The capital invested in 1900 amounted to $11,847,495.

"Is not an industry of such magnitude as this worth the effort to preserve it? Is it good business foresight to annihilate the source of all these millions? Is it just to coming generations that we should destroy these splendid forests, without an effort to replace them? I need not look forward to posterity; I see faces before me whose freshness and vigor tell me that if the present rate of forest destruction continues they will be seeking fortunes in some other occupation than 'turpentining' ere many more years roll by, for at the present rate of ruthless destruction there will soon be no pine to 'turpentine.' It is late, but not too late, to adopt a policy of preservation and reproduction.

"In looking over the state as I saw it first, I recall miles upon miles of lofty pines stretching away on all sides, standing like lofty brown columns, supporting arches of living green, through which the breezes, as they passed, made sweet music; but now as I traverse the same country I see great areas of scrubby pines, jack oaks and a little wiregrass. The cathedral arches have gone, nature's organ is silent, and the colonnades, with their ever-changing vistas are no more. The hand of desolation rests heavily on the bosom of the earth, blackened stumps alone pathetically tell of the monarchs that once made the land beautiful and valuable, and I am told that the ancient order of turpentine men wrought all this desolation. They 'turpentined it,' the fire followed and destruction has been the result. When the fire failed the sawmill man was as bad as the fire. In the track of the naval stores and lumber men there are only blackened stumps to pitifully tell the story of the past of a beautiful land left a ruin, ruthless, wasteful extravagance. Ah, there is the past! The past is valueless, except as it teaches useful lessons for the future. Fable tells of a man who owned a goose that each day laid one golden egg; avarice prompted that man to kill his goose to get all the eggs at once, but the dead goose had not a single egg, his goose was gone, and there was no other goose for him to get. You are killing your goose; it isn't dead yet, but it is badly hurt, but not beyond recovery. The turpentine men and lumbermen are destroying their source of supply without respect to the sovereign welfare of the state or heed for the morrow. Without a thought, seemingly, for the future, both are moving on, leaving destruction in their path. The forest looms ahead in seemingly exhaustless acres, but soon there will be nothing before them but waste of waters like the deep blue sea.

"They have forgotten the words of the inspired lawgiver of the Hebrews that 'The tree of the field is man's life;' they forget that 'The groves were God's first temples,

" 'Ere man learned
To hew the shaft, and lay the architrave
And spread the roof above them—ere he framed
The lofty vault, to gather and roll back
To round of anthems, in the darkling wood,
Amid the cool and silence, he knelt down
And offered to the Mightiest solemn thanks
And supplications.'

"This mighty and beautiful temple can and should be preserved. Fortunately, we have the experience of others to guide us. Practical forestry has become a science, and the idea of recuperation has taken a firm hold both here and in Europe. In Europe great areas of barren land have been re-covered with trees and these are being preserved under trained supervision. It is costly, but conditions made the work absolutely necessary to life.

"The value of all the mineral products of this country is less than one-half that of our forests each year; all our field crops fall millions short of the yearly product of our forests, yet the commercial value of a forest does not lie wholly in the commercial value of the timber—its effects on climate conditions, on the perpetuity of springs and streams, on the crops, on the health of the country, are incalculable. All things considered, profit, health, the future of the country, all should have weight in the discussion of plans for the future.

"Men who made forestry a study tell us that in the

family of trees there are always youngsters, who, if rightly nourished and protected, will take their daddies' places in the turpentine farm and on the lumber pile. It is plain that if the turpentine and lumber industries of this state are to exist many more years there must be replenishment and recuperation of the timber. That this is not impossible has been demonstrated by nature unassisted by man. It was strikingly illustrated in the Olympic reserve of Washington, where all the timber, red fir and yellow, was destroyed by fire, but nature has, unassisted, replaced the destroyed trees with a splendid young growth. But for the innate power of forests to reproduce themselves, there would be no forests; few, if any, forest regions escape fire, and by far the greater part of the whole forest area of the United States bears the marks of fire, yet the forests have not disappeared. If nature can, with time and unaided, replace the forests how comparatively easy the task when directed by trained minds working to help nature.

"A short time ago the Sawyer & Austin Lumber Company, desiring, if possible, to make their business permanent, asked the Agricultural Department for an expert opinion on their land, their annual cut being 40,000,000 feet, their area being 105,000 acres, 5 per cent. of which is bare of merchantable timber. The expert recommended a diameter limit, but it is not necessary to go into details. The plan leaves the young and middle-aged pines—everything under fourteen inches. The removal of the matured pines in a systematic manner increases the seed-producing capacity of the remaining trees, as well as the germinating power of them that fall, the object being to secure a constantly increasing stand of pine and a decreasing stand of hardwoods. Every oak or hardwood tree cut tends to increase the number of pines in a future stand. The result of the investigation showed that the company could carry out their plans successfully by adding 170,000 more acres to their holdings, thus making all their improvements permanent. At the low rate of taxation imposed in Florida, the certainty that the demand for all the products of the pine will be constantly growing, and the knowledge gained from the experience of others, there should be great incentive to perpetuate this source of wealth. Actual experiment has shown that the boxing and hacking, as practiced, is detrimental to the tree—in fact, is murderous, in that it destroys its vitality or reduces its power of resistance to both wind and fire; but the tree's vitality reduced it soon becomes unprofitable, and the farm is abandoned. The use of improved appliances might not yield such a bountiful flow of sap at once, but it would be continuous as the years rolled around, and while they filled your coffers they would grow in value as lumber, thus increasing your wealth in two directions at the same time and make the now dying industry a lasting source of wealth. The world draws its supply of naval stores from this country, and we should prepare to keep the control of the market. We do not live for ourselves, at least we should not.

"The turpentine and lumber men would, under the new and enlightened system proposed, which I trust will be discussed in detail by our distinguished visitor, an expert on forestry from the Department at Washington, Mr. Herety, become a blessing to every section in which they established their plans. The monuments of sawdust might still exist to some extent, but they would not, as now, tell of a denuded, devastated and impoverished land, and there would be no skeletons of mighty pines to mark the path of the turpentine men.

"I welcome you to a state of wonderful resources. It has always been thought the West was the land of big things, and it has its share of things to astonish a fellow, but the Peninular State lends a few things, and in some beats the world. For instance, Florida has the largest apiary in the world, the largest Jersey dairy in the world, the largest tomato farm, the largest watermelon farmer, the largest pineapple plantation, the largest cigar tobacco farm, the largest shedded pinery, the largest cassava farm, the largest velvet bean farm, largest vegetable evaporator, the largest shipping point for Irish potatoes (fall), the largest winter celery farm, the largest orange grove under one management, and the largest seedling orange grove in the world. It has the largest hay farm in the Gulf States and the largest peach orchard. It has the largest fenced stock range east of the Mississippi river and the largest sheep ranch (stocked), the largest herd of cattle owned by one man, the largest rabbitry of imported Belgian hares in America, the richest and largest deposits of phosphate rock and the largest mine of kaolin in the world, and leads in naval stores manufacture, and at the Paris Exposition took the highest premium for cigar wrapper in competition with the whole world. In these Florida stands pre-eminent. Our state needs so little aid from us to make it what man desires that we abuse its blessings. I have just returned from a visit to the Pacific Coast, and while there my thoughts constantly recurred to Florida as I saw what man was doing to make the earth sustain him. Miles upon miles of aqueducts, costing hundreds of thousands of dollars, built to convey water to land that without this stimulant was a desert. Agriculture, fruit growing, trucking, all depend on this artificial moisture. The tiller of the soil pays his water rate as regularly as the city man pays his gas bills, and yet the people prosper. Compare this with Florida: We have better land, as good a climate, and an abundance of water for all purposes all the time, a free gift from heaven, and yet we fail and find fault

when we alone are to blame for failure. We destroy the forests, and grumble at the disappearance of springs and dried up water courses; we complain about the changed seasons and do not look to ourselves as the cause. The results have been the direct consequences of our acts, thoughtless, perhaps, but ours; now it devolves upon us to repair the injury we have inflicted on the land. This is no work of charity, it is business—a work that will add to our bank accounts and keep them growing.

"When we fully realize that onethird (fifteen states) of the states of the Union are treeless, without any waterfall to speak of, containing 600,000,000 acres of arid and waste lands, and experts on national irrigation only hope to reclaim 60,000,000 acres by an unlimited outlay of public money, we can appreciate the wonderful value of our own state and its resources. 'Woodman, spare that tree.'

"It is a source of intense pleasure to me that in welcoming you to Florida I welcome you to a state whose financial condition is the best in the Union. Florida has on deposit to-day funds enough to pay every dollar that she owes, and still leave a handsome balance to her credit.

"This forcibly demonstrates to the world the wonderful recuperative powers of the state and its productive capacity under proper management. The war swept away $80,000,000 of her property, practically all that the people had, but they rebuilt their shattered fortunes, and in 1895 were again prospering when the great freeze wiped out the income-producing property of the peninsula, a loss not to be estimated in figures, for it represented the work of a lifetime and all the income it produced. Now, after all these losses, and in the short space of thirty-seven years, the state has overcome her losses and increased her taxable property to $300,000,000, and returns from her farms and manufactures for 1900 show returns amounting to $55,000,000 (they will in all probability amount to $60,000,000 this year).

"In 1865 there were no banks. In 1900 there were abundant banking facilities, the banking capital amounting to approximately $3,000,000, and the individual deposits to $10,599,729. In the race for prosperity Florida has outstripped all her Southern sisters, phenomenal as has been their career.

"The rate of taxation in Florida is the lowest in the Union. It is a rate that should make any man ashamed to hide his property and dodge the payment of the pittance that is asked of him in support of the government and to aid in the enforcement of the laws. Our officers are efficient, courteous and ready at all times, even in the face of grave personal danger, to discharge their duties. Our courts are prompt in the adjudication of all matters that come before them. The Supreme Court on its adjournment, August 1, did not have a single criminal case on its docket—every one had been considered and disposed of.

"Florida has of late years been peculiarly fortunate in her Congressional representation. It has been composed of enthusiastic, broad-minded, hard-working, talented gentlemen, each one of whom has found it a pleasure to represent and work for the best interests of the state. The people appreciated their efforts and expressed their appreciation freely, and this city recognized their services by tendering them a magnificent banquet, which was attended by representatives from all parts of the state. It was a graceful and merited compliment to the state's faithful representatives.

"Florida manufactures 40 per cent. of the entire output of naval stores, and ships through her ports 15 per cent. With deep water to Jacksonville her port can handle the entire output.

"Again I bid you a hearty welcome to our state, and trust that your deliberations may redound to the good of all; that you in your multitude of counsel may find ways to build and perpetuate your ancient and profitable industry so that for the next thousand years you may grow and increase in riches and numbers, and be a blessing to and permanent dwellers in the land.

"On behalf of the great State of Florida and her administrative officers, I welcome you, and assure you of our sympathy in your work and beg to express the hope that the objects of your meeting as set forth in your constitution may be abundantly accomplished."

Composition of Human Fat.

Dr. Herman Jaeckle (Zeit. f. phys. Chem.) has made numerous and exhaustive analyses of normal human fat. He finds that the fat of adults consists of simple glycerides of oleic, palmitic and stearic acids. Except small traces of lower fat acids, no other acids were found. The chemical composition of the fat is subject to wide, individual variations. In the first few months of life, the fat of children differs in a characteristic manner from that of adults, containing a much higher proportion of lower fatty acids and a smaller proportion of oleic acid. No difference due to the influence of diet upon the chemical composition was observed. The fat of fatty tumors does not differ materially from that of normal subcutaneous tissue. It is, however, very probable that the proportion of lecithine is relatively much lower in the fat of strongly developed fatty tumors than in normal fat. Pathological processes are capable of producing extraordinary variations in this normal constituent of the human body.

AMONG THE SOAP FACTORIES.

No. 2—*The* George A. Schmidt Co., Chicago, Ill.

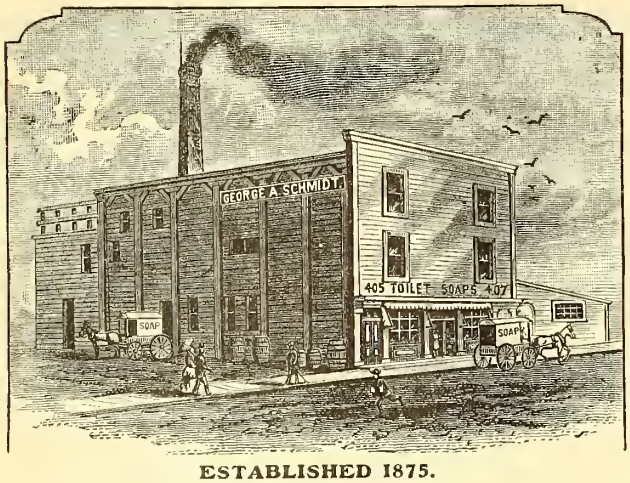
In the course of our monthly excursions among soap factories we can scarcely do better than to make a call at that of the Geo. A. Schmidt Co., of Chicago, and so



GEO. A. SCHMIDT
Of the Geo. A. Schmidt Co.

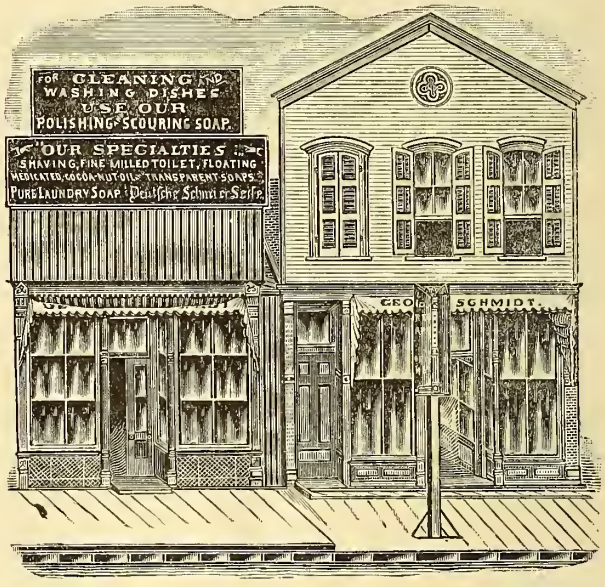
it is about this firm that we want to have a little talk with our readers to-day.

The business was established in 1875, in a small way, by Mr. Geo. A. Schmidt, who still remains at its head. His object in entering business on his own account was



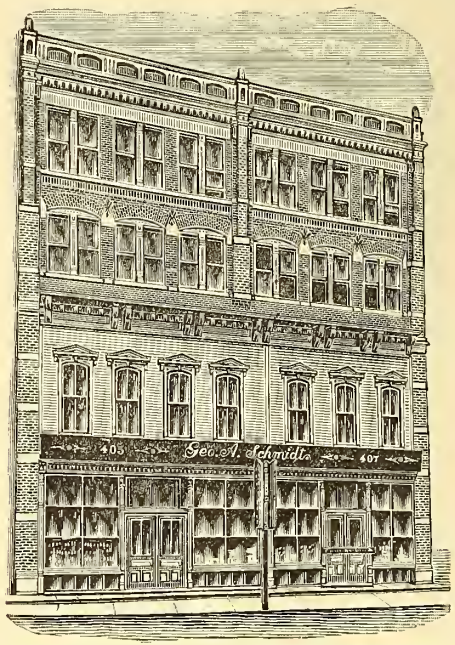
ESTABLISHED 1875.

not to compete with large concerns in those grades of soap which he foresaw would in the natural course of events come to be monopolized by large capital rather than by special soapmaking skill; he paid little attention to such soaps and gave, instead, his best efforts to the improvement of the better soap in general and to the development of specialties in soap, according as any new



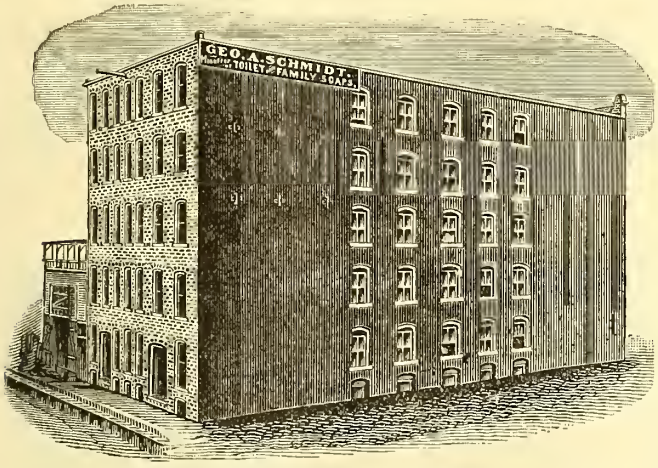
OFFICE AND SALESROOM, 1888.

improvement introduced made a soap better fit for a given purpose or other. Thus it was that tooth soap and shaving soaps became his earliest specialties, and



FRONT BUILDING, WAREHOUSE AND SHIPPING ROOMS.

together with his toilet and certain medicated soaps rapidly made him a reputation throughout the country, and in Canada as well; in short, the business prospered from the very beginning, though success was not assured without years of long hours of work by day and many a sleepless hour by night at first.



REAR BUILDING—FACTORY.

In one respect, however, the factory was unusually fortunate at least; it never was obliged to shut down for repairs, nor lost a single day by fire or other mishap; on the contrary—with the exception of Sundays and holidays—it has been in uninterrupted operation from its first opening. To do this, however, in the face of repeated and important additions to the plant, there had to be adopted at one time a curious and unique manner of building; while the old factory in the old frame building was kept running continually, a five story brick building was erected over and all around it; the upper floors of the new building were supported by iron columns which, however, were not visible from the street, so that (until an iron front was put in at a subsequent period) it looked as if a two-story brick addition had been placed on top of a frame building, and the factory was for a time the subject of much wonderment on the part of passers-by.



SHOW WINDOWS, GEO. A. SCHMIDT CO.

The business during all these years comprised milled toilet and shaving soaps, to which were gradually added such special soaps as tooth soaps, medicated soaps, potash soaps, shampoos, liquid soaps, and, most recently, the several forms of "Aseage," with which the trade is familiar and which Mr. Schmidt considers among his best achievements; these latter preparations were patented to him in 1900.

Mr. Schmidt was born fifty years ago, in Kreuznach, Germany, where he "learned the trade" as the saying goes, though—considering that he left Germany at the age of 17 to come to America, and that now at fifty he does not consider himself too old yet to investigate and increase his knowledge of everything concerning soap, personal hygiene, etc., etc., it would perhaps be more proper to say that he learned the greater part of his business in this country, and not from his employers, either.

Well, at any rate, he arrived in Chicago in 1869, and for a time was in the employ of U. Ritchie in that city, but, as already stated, in 1875 he started his own business. He took both pleasure and pride in that business, and has at all times been most thoroughly imbued with the idea that, as a soap manufacturer, he not only furnished a large circle of consumers with the means of increasing their comfort and well-being, but that it was his duty and that of every soap manufacturer to carry everywhere the gospel of the proper use of a proper soap specially adapted to the time and occasion. This belief he always lived up to and he has never tired of advising consumers, in circulars and letters, to use their judgment in so important a matter as personal cleanliness and to adapt the soaps selected to the purposes in view. He believes in pleasing his customers by furnishing soap especially applicable to their purposes and of solid worth rather than by pandering to their whims and prejudices



SHOW WINDOWS, GEO. A. SCHMIDT CO.

regarding smell, color, fetching names, make-up, large all-around claims for each brand, and similar devices. As he puts it: "In selecting soaps, don't judge them by the rules as applied in estimating a dude; judge them as you would the best people, and remember that only closer acquaintance shows the good points of the latter."

As a result of this unremitting application to the manufacture of his goods and to their proper introduction among intelligent users, the business grew—slowly at first, then faster and faster—until in recent years it



SHOW WINDOWS, GEO. A. SCHMIDT CO.

was growing almost a little too fast to be comfortably managed by one man alone; for this reason, and because he wanted to take a greatly needed rest preparatory to making new arrangements for meeting the increasing calls upon his working capacity and responsibilities he —in 1897—formed the company which now carries on the business and which consists entirely of members of his family. Since then he has made repeated trips to Europe, partly for business and partly for the good of his health.

By dint of concentrated attention, long hours and systematic habits, Mr. Schmidt succeeded not only in building up a large business and originating a number of specialties, but at the same time he was quite a prolific writer, as a large number of essays in the AMERICAN SOAP JOURNAL as well as in the German trade press testify; he also rendered very valuable practical assistance throughout in writing the work "American Soaps," which has become the standard text-book for practical soap makers in all English-speaking countries. Privately also he was always above narrow selfishness, and in the matter of showing his factory to other members of the craft or assisting us in giving information to less experienced soap makers he was at all times unusually liberal. In addition to all this he found time also to take an active interest in several societies, especially the

Chicago Turn Gemeinde, whom he served first as vice-president and as corresponding secretary for a number of years, and then for eight years as president.

In addition to the illustrations of the factory of this firm as it appeared at various periods, we take pleasure herewith in reproducing photographs taken at the show rooms of the Geo. A. Schmidt Co., at 405-407 North Avenue, Chicago. As soap manufacturers as a rule do not display their goods in show cases, these photographs of the four show windows will be of interest.



SHOW WINDOWS, GEO. A. SCHMIDT CO.

Report of Committee on Trade-Marks, N. W. D. A.

(From the Oil, Paint and Drug Reporter.)

To the President and Members of the National Wholesale Druggists' Association:

Your committee on Trade-marks makes report that since the last meeting of this association it has in a general way kept itself informed as to the decisions of the courts, touching unfair competition and infringement of trade-marks. There has been the usual large volume of litigation of this nature in the Federal and State Courts, and indeed it may be said that there is an increase of such litigation from year to year. Your Committee is informed that a very considerable percentage of the decisions handed down by the Federal Courts throughout the country is of this nature. It is a matter of satisfaction to be able to report that the tendency seems to be toward greater protection of the just rights of the proprietors of this class of property, and to give less weight and consideration to the species of defense and excuses which are offered by those guilty of piracy. As a general rule the proprietors of valid trade-marks, or of styles of package and labels, whose rights have been infringed upon, may go into court with perfect assurance that such invasion of their rights will be en-

joined and that full relief will be granted to them, provided that they have not closed the doors of courts of equity against themselves by any unwarranted representations, or have not lost their rights by negligence. While many of the cases decided during the past year relate to articles not handled by members of this Association, yet the opinions of the courts given in connection with those decisions, will apply as well in cases where your rights may be concerned as to those in which the oponions were rendered. A large majority of the opinions are rendered in cases where there were no peculiar features, and only apply general and well accepted and understood doctrines. Your Committee will therefore refer particularly to but a very few of the cases which have come to its attention, by way of illustration, selecting such as seem to have peculiar value and importance.

It has been a very common practice on the part of infringers to copy so much of the trade-mark or label of the manufacturer, whose good-will they may seek to appropriate, as will cause confusion in the minds of the purchasers, or tend to deceive them, and at the same time attach some label, or add some words, or other marks, not appearing upon the original, with a view to defending any suit which may be brought by claiming that such label, marks, or words, sufficiently distinguish their goods, and prevent confusion in the minds of purchasers. In a great many instances where parties have been called into court on account of infringments, they have said by way of defense that they had done everything they could to distinguish their label from that of the original proprietor, and in proof of that statement have pointed to such additional words or additional label. In view of this common practice, which has sometimes, though not generally found support in the lower courts, the decision of the Supreme Court in the case of Saxlehner v. Eisner & Mendelson Co., October 15th, 1900, and reported in the 179 U. S. at page 19 is important. This concerned Hunyadi water. It was there held that the right of the complainant in the name of Hunyadi, if he had ever had such right, had been lost by his failure to institute suits and vindicate his exclusive right to the word. It was shown, however, that the defendant had used a label of similar design but with different language thereon; the appearance to the eye was held by the court to be such as to deceive a casual purchaser, but upon the neck of the bottle the defendant company had affixed an additional label consisting of a red seal upon a white ground, and containing the words "Ask for the Seal Brand. This label has been adopted to protect the public from imitation and as a guarantee to the public of the genuineness of the Hunyadi-Matyas, prepared solely by Eisner, Mendelsohn & Co., New York." The attention of the druggist was called to this seal brand by advertisements in the trade paper. These circumstances indicate that the defendant was acting in good faith, and the case is not to be classed among those where the intent was to wrongfully and unfairly compete with the complainant, and this fact adds to the significance and value of the decision. The Supreme Court, however, was of the opinion that the defendant's bottle and label were an infringment upon those of the complainant, and that the affixing of the additional and special label was not sufficient, declaring that while this label might have been adopted in good faith, the court did not think its employment would prevent the casual customer from purchasing the water of defendant as that of the complainant. It is thus clear that in the opinion of the court whatever the intent of parties may be, there must not be such similarity as is likely to mislead even the casual and indifferent purchaser.

Your Committee thinks that this decision is of very considerable importance, and will be of advantage to the owners of trade-marks and peculiar styles of package, in future disputes of this nature. In some of the lower courts heretofore, defendants have been successful because they had attached to their packages marks much less calculated to distinguish their products from those of the original manufacturer, than was the brand and label referred to in the opinion just quoted. It has even been held that there is a duty on the part of the purchaser to examine, and make sure that he is getting the article he desires. Hereafter it will be much more difficult for infringers to successfully claim that they have added names or marks to the labels or trade-marks of original proprietors, and thereby distinguished their wares.

This case is further of importance to those proprietors who have preparations or articles known by a word or name which is not properly the subject of trademark, and which may be used by all others who see fit so to do. There has been some confusion in the lower courts as to what precautions one must take, who comes upon the market with an article under a name which has become familiar, as identifying the product of another manufacturer earlier in the field. It has been held, as is said above, that a purchaser seeking an article made by one manufacturer rather than that prepared by another, is bound to examine the wrapper with such a degree of care as would ordinarily ascertain who the manufacturer of the article which he purchases, is; and that new comers in the field do their full duty if they so dress their product that one who seeks to ascertain whose manufacture it is can readily learn by a reasonable examination of their wrappers, whether it is made by the appellant or by themselves. It is clear that if this were sound law, great injury could be done to all owners of proprietary remedies, for a purchaser rarely

knows that there is more than one article of the same kind upon the market, and it would not occur to such purchaser to examine to see whose manufacture he was purchasing.

The Saxlehner case may be accepted as putting an end to that doctrine, for any such examination as is required by the line of decisions just referred to would certainly have disclosed the additional label upon defendant's Hunyadi water, which clearly stated by whom it was put upon the market. It is a matter of congratulation that so decided a position has been taken by the court of final resort.

Other cases of the same general effect have been decided during the year by the Courts of Appeals. A notable one is that of Shaver et al. v. Heller & Merz Co., decided in April, 1901, 108 Federal Reporter, page 821, in which it was held that where the words designating the articles in question were names which the public generally had the right to use, it was indispensable to the exercise of these rights that the goods should be distinguished as far as possible from those of the original manufacturers. In this case, also, the court struck hard at the defense so commonly attempted by infringers, of claiming that they have not infringed because they have placed their names and residence in conspicuous places on their packages, and have otherwise added distinguishing marks. The Court said: "The 'American Ball Blue and American Wash Blue' were articles well known to the trade and to the public as the manufacturers of the appellee before the appellants entered upon the business of selling bluing. These articles and the names by which they were known had an established reputation and commanded a lucrative trade. To the dealers in bluing the appellants were unknown. The only effect of placing their unfamiliar names and residences upon the packages of bluing under the names of the appellee's well known articles, was to give to appellants the benefit of the established reputation of the appellee's articles, and thus to enable them to derive greater benefit from their fraud."

These decisions are in the right direction and must be of material value to all proprietors of the kind of property here in question.

Another important case, decided by the Supreme Court of the United States during the present year, is that of Elgin National Watch Co. against the Illinois Watch Case Co., 179 U. S., Page 665. Many manufacturers have found themselves embarrassed by the fact that their articles had come to be known by a name which was connected with the place of manufacture, the law being that a geographical name cannot be monopolized as a trade-mark. In the case just referred to the word "Elgin" was the subject of controversy between the Watch Co. and the Watch Case Co., it having been a part of the name of the former, and having become known as identifying watches of their manufacture; and the defendant having adopted it upon watch cases and not upon watches. The court in its opinion stated that the business of the defendant was located in Elgin, and in describing their watches as made there, they told the literal truth, and the general doctrine was adhered to that no one could apply a geographical name to a well-known article of commerce and thereby obtain an exclusive right to it, so as to prevent others inhabiting the district, or dealing in same articles coming from the district, from truthfully using the same designation. But the court held that even though the trade-mark was not in itself a good trade-mark, yet where the use of the word had come to denote the particular manufacturer or vendor, relief against unfair competition would be awarded by requiring the use of the word by another to be confined to its primary sense, by such limitation as would prevent misapprehension on the question of origin. In other words, the doctrine was laid down that where a word in common use had obtained a secondary signification as identifying the wares to which it was applied, the courts would protect the person thus entitled to its benefit in such secondary sense, from infringement and fraud in respect to that signification, even though the mark consisted of a geographical name.

The case last referred to is but one of many which show conclusively that it is the policy of the courts to protect the owners of trade-marks and of labels, in the full enjoyment of their rights, and of all advantage justly obtainable from them against every form of attempted infringement and appropriation, and of a determination not to be bound by technicalities and subterfuges, but to get at the substance of the matter as directly as possible, and to afford the appropriate relief. The case of Shaver et al. vs. Heller & Merz Co., above referred to, is also important in this same connection. The American Ball Blue and the American Wash Blue had become well known, and the articles to which they were attached had an established reputation; and the persons alleged to have infringed had sought to shield themselves behind the defense that the names were geographical and descriptive and could not be used exclusively as trade-marks; but the court held that geographical and descriptive terms might be lawfully enjoined to the same extent as any other terms or symbols, and did grant an injunction against the use of the word American.

A number of the cases decided during the year illustrate how necessary it is that every manufacturer seeking to preserve a right to his label or trade-mark, should be extremely careful not to permit anything to appear in connection with such articles which in any way contains any material misrepresentation. It has happened

in a number of instances that valuable rights have been lost in this way, even when there was no real intent to deceive by such misrepresentation.

The Supreme Court of the United States has also contributed something to the law upon this point during the past year, in the case of Holzapfels Compositions Co. vs. Rahtjens American Composition Co., 183 U. S., page 1, where it was held that a symbol or label claimed as a trade-mark, so constituted or worded as to make or contain a distinct assertion which is false, will not be recognized, and no right to its exclusive use can be maintained. The trade-mark pertained to a certain kind of paint for the protection of ships' bottoms from rust and from vegetable or animal growth thereon, either in salt or fresh water. From 1873 to 1880 the composition was covered by English letters patent. After the expiration of the patent the word patent was still used in the title, it being called "Rahtjens Patent Composition." The court held that after the expiration of the patent, complainant had no right to designate the composition as a patented article when in fact there was no patent.

In the same line is the case of Preservaline Chemical Co. vs. Heller Chemical Co., decided in the United States Circuit Court for the Northern District of Illinois, June 3, 1902, and reported in the Chicago Legal News, Vol. 24, page 329. Defendant in that case put up an article called Preservaline. The owners of Preservaline brought suit restraining infringement, and it was held by the court that except for one fact complainant was entitled to an order restraining the defendants. That fact was that in some of its advertising matter the Preservaline Co. used the term "Patented" or its equivalent, after the patent had expired, and that that misrepresentation closed the doors of the court of equity against the complainant.

These cases are referred to to illustrate the necessity of great care and caution on the part of proprietors to see that there is nothing contained in marks, labels or advertisements, which cannot be warranted or justified by the facts. There is no doubt that there was no intention to commit any fraud by the use of these terms in the cases referred to; Preservaline had been patented; the patent had expired in 1892; the package did not bear any statement or any reference to a patent. It is probable that no doubt innocently the manufacturers had continued the former methods of advertising, their attention being directed to the fact that this particular word should no longer be used.

A rather curious case was decided in the Court of Appeals of Maryland, April 1, 1902, reported in the Fifty-first Atlantic Reporter, 822. There complainant endeavored to enjoin the defendant, his wife, from manufacturing a vegetable compound called the "Family Physician." The court refused the injunction, because complainant's label stated that the medicine in question was "the great smallpox and diphtheria cure and preventative. Cures the worst cases without marking, unless already scabbed." The court said that the statement referred to was false and was manifestly designed to deceive the public, and therefore refused to grant an injunction; and for this reason alone relief was refused.

Another element in this form of litigation that the committee deems proper to call attention to, is the duty imposed upon proprietors to act promptly if they wish to get full measure of relief against infringers. In the Hunyadi case above referred to, the Supreme Court of the United States, as has been shown, held that the complainant had lost any right to the exclusive use of the word "Hunyadi" by laches in permitting others to use it for a long period of time. Your committee is advised that such right is only lost in extreme cases, but proprietors who have permitted without interference, a continued piracy of their property of this nature, are as a rule refused any damages. A case of this character, decided in the past year, is that of N. K. Fairbanks Co. sv. Luckel King & Cake Soap Co., 116 Federal, 332, where the right of an injunction against further infringement of a trade-mark was recognized and relief granted, but an accounting for past profits was denied on the ground that complainant had been guilty of laches in asserting its rights. The article in question was Gold Dust Washing Powder. The doctrine laid down there is not at all novel, and is based upon the leading case of McLain vs. Fleming, 96 U. S., 245.

There have been a number of cases in which the right to assign trade-marks, or to license the use of them, has been involved, but in the main there is nothing novel so far as this committee is advised in the conclusions reached.

The case of McMahon Pharmacal Co. vs. Denver Chemical Mfg. Co., decided in December, 1901, by the Circuit Court of Appeals of the Eighth Circuit, reported in the 113th Federal, 468, held that a trade-mark is not by itself such property as can be transferred and that the right to use it cannot be assigned except as incidental to the transfer of the business or the property in connection with which it has been used. The word there in question was "Antiphlogistine;" the right to use which upon a certain preparation had been granted by the company claiming to be owner thereof. The right, however, to transfer trade-marks and trade names as part of the business and property of an old corporation, and the right of the transferee to protection against a new company using such name, was very vigorously asserted in the case of The Peck Bros. Co. vs. Peck Bros. Co., 113 Federal, 291, where the Court of Appeals for the Seventh Circuit stated that the status of the complainant was precisely the same as though the original

Connecticut corporation continuing to exist and to prosecute business, was the party here complaining of the wrong; and of the action of the defendants in organizing another corporation by substantially the same name, the opinion declared that "It was conceived in sin, and brought forth in iniquity; that wrong attended at its birth, and that fraud stood sponsor at its christening, imposing upon the corporate child a name which it was not entitled to, and which it had no right to bear."

We think this meager review of some of the cases decided during the past year, which seem to us important, sufficiently illustrates the fact that the courts are as a rule consistently adhering to the doctrine that wherever it is really true that parties are attempting to appropriate good-will of others by unfair competition calculated to deceive the public, it is the duty of the court to intervene and protect this important class of property rights. They likewise illustrate the points wherein the proprietors of such rights must be careful and keep themselves in position to enter into a court of equity when occasion requires it. The growing disposition on the part of proprietors to vigorously combat any attempts to undermine their trade, and to deprive them of the fairly earned right to all benefit arising from their trade-marks and trade names has, in the opinion of this committee, had a salutary effect and has acted in a large measure as a restraint upon persons who otherwise would engage in such practices. The person seeking profit in this illegitimate way is not likely to select as his victim a concern which has shown its determination to protect by all means in its power its property right.

CHAS. H. CAMP, Chairman.

The Tallow Drawback.

The new regulations concerning allowance of drawback on imported tallow used in soap exported, appear in the following from the Treasury Department:

"On the exportation of 'Fels Naptha Soap,' by Messrs. Fels & Co., of Philadelphia, Pa., in the manufacture of which no other than imported tallow is used, with certain other materials of a secret character, but of domestic production, a drawback will be allowed equal in amount to the duty paid on such imported material, less the legal deduction of one per cent.

"The entry at the Custom House, under which the merchandise is to be inspected and laden, must show the marks and numbers of the shipping cases or packages, together with the contents, and the gross, tare and net weight distinctly and separately marked on the outside of each case.

"The manufacturer's declaration on the drawback entry must show the quantity of imported tallow in condition as imported used in the manufacture of soap, and in addition to the usual averments, that the same was manufactured of the materials and in the manner set forth in the sworn application.

"The manufacturer's records will show the quantity of tallow imported, giving date, steamer, number of entry, quantity, duty paid thereon, and the quantity of soap manufactured therefrom, and exported for the benefit of drawback, which record shall at all reasonable times be open to the inspection of the customs officials.

"Samples may be taken, or sworn samples furnished, as ordered by the collector, for such official determination as may be required, and the net weight of the soap ascertained by the United States weigher.

"In liquidation, the quantity of imported tallow, taken as the basis of drawback, may be that declared in the drawback entry, but in no case shall it exceed 25 pounds of tallow for each and every 100 pounds of the soap manufactured and exported."

Buying Soap For Laundries.

(Discussion at the Laundrymen's Convention.)

The President. Is there anything further to be said on this question. I will state that if, at any time during the meeting, it is your wish to bring up any of these subjects again for discussion, unless it is objected to by the convention, I shall always grant the privilege. The next subject for discussion is, "What ingredients should be used to make the best and most economical soap for laundry use?" This was suggested by Mr. Clifton Taylor of the Cincinnati Laundrymen's Association, and I will call upon Mr. Taylor to present the subject to you.

Mr. Taylor. When I suggested the subject now in order for discussion, I did not expect to take part in it, except possibly to ask a few questions, the answers to which might give some of us a better understanding of the subject.

Soap is certainly one of the very necessary items of our business, and the time is close at hand when the importance of good and proper soaps will be much appreciated.

The object of my presenting this subject, "What ingredients should be used to make the best and most economical soaps for laundry use," is to encourage our soapmakers and all who are well informed on the subject to tell us something about it.

We know that soaps for laundry use are made principally from tallow, tallow oil, red oil, cocoanut oil and olive oil, saponified with caustic soda and caustic potash; carbonate of soda and soda ash are also used in the manufacture as fillers. These various oils are composed of several elements known as fatty acids and glycerine.

The extraction of one or more of those fatty acids from tallow before the soap is made, and the extraction of the glycerine either before or after, produces a different soap than if all these elements are left in.

I have been led to believe that a soap made from tallow or red oil, for instance, is better for machine use than one made from tallow as an entirety, and that if caustic potash were used instead of caustic soda we would have a still better soap, but more costly. I am also led to believe that various ingredients are sometimes employed in the manufacture of soaps which could be entirely dispensed with and result in better soaps being produced were we not to consider the cost quite so carefully.

We all know that water is extensively employed in the manufacture of our soaps, and there might be less in them sometimes than there is. I know that some soaps contain less than 20 per cent. of moisture, but I suggest that the soapmakers adopt some standard as the limit to the amount of moisture, which should not exceed 20 per cent.

Soapmaking is a progressive industry, and I have no doubt that some of the progressive gentlemen here, who are engaged in this business, can give us some instructive talks on this subject.

Mr. Sullivan. We have had some experience on the soap question. Several manufacturers throughout the country sent soap to us, and the barrel weighed anywhere from ten to twenty-five pounds short. The manufacturers claimed that the substance of that soap was there just the same, and when they packed the barrels the weight was what was called for on the bill of lading, but the laundryman claims that he is out that amount of money. The question is, Who is right? Is the substance of the soap there without the moisture? If a barrel of soap weighs 225 pounds when the manufacturer makes it, and puts it away, and when the laundryman gets it it weighs 200 or 210 pounds, having lost 15 pounds in the moisture, the manufacturer claims that the substance of the soap is there just the same and that it will go equally as far; that there is nothing lost, as far as the laundryman is concerned. The laundryman, however, says, "I only pay for what I get, and if that soap does not 'weigh in' what you charge me, when I receive it, then I will send it back to you." Now, who is right? Is the manufacturer right when he says the soap is there just the same, if it does weigh less? You know that many years ago the old people used to take soap and store it away and let it dry out, and the harder they got the bar the further it would go. Now, who is right in this discussion? Is the manufacturer right when he says the substance of the soap is there just the same, even if it is ten or fifteen pounds short in the barrel, or is the laundryman right when he says that he is paying for a barrel of so many pounds, and will not pay for it unless it weighs that many pounds when he receives it?

(The discussion was so sharp and inclined to be more humorous than instructive, we will omit several remarks made by the members, as they are of no consequence at this time.—Ed.)

The President. We are allowing a great deal of latitude in these discussions. If the members wish me to adhere to parliamentary rules I will do so, but I suppose in these discussions we will get more interest and more benefit from them by allowing this latitude. The subject, I should say, includes anything in regard to soap.

The President. I will call on Mr. Taylor, to see if he will not set the convention straight on the line of discussion he desires to develop. He probably has some ideas in his mind about this subject further than those he has already stated to the convention.

Mr. Taylor. The idea, Mr. President, was that we might be able to adopt some basis on which we might buy our soap. I suggested that 20 per cent. of moisture be the limit. I have made a test of soap in the last year, and found 40 per cent. of moisture in it. While I am up, I will mention a little test which is very simple and which can be used to find out how much moisture is in the soap, pretty nearly: Take 20 ounces of soap and put it in a large flat agate or granite-lined pan, and place it in your dry-house for a day or two. It weighs 20 ounces when you put it in; weigh it when you take it out, and you will find very nearly how much moisture there is in it. I claim that there should not be more than 20 per cent. The adding of moisture to soap when it is sold is only one of the items that could be talked about. There are many things in soap that we could dispense with, as I have said. I was in hope that some of the gentlemen here who are soap chemists would help us out in that argument.

Mr. Sullivan. I would like to ask Mr. Taylor as to whether that was a soda or neutral caustic, or neutral, to put it plainer?

Mr. Taylor. I think it was pretty nearly a neutral soap.

Mr. Sullivan. Neutral soap differs greatly in moisture, sometimes.

Mr. Taylor. I do not propose to pose as a soap chemist, or an expert on soap at all, but I understand that there is a certain percentage of fatty acids required in the manufacture of soap. I am told that the soap should contain 65 per cent. of fatty acids. Now, if there is 65 per cent. of fatty acid in the soap you buy, there cannot be too much moisture in there. It is either

caustic potash, or whatever it is, in there. We ought to know, when we are buying soap, how much soap stock we are getting.

Mr. Kriege. Speaking of the question of the percentage of moisture, I would like to say that the government is advertising for bids for soap, and the soap to be delivered under these bids must invariably stand the test. Why would it not be just as well for our soap men when they sell soap to sell it to laundrymen under the same conditions that the government requires in its test, the understanding being that the soap shall stand the required test before it will be accepted. If we were to adopt that system, we would know what we are buying and paying for, and it would save all loss.

The President. We have some associate members of our Association who are engaged in the soap business, and while it is not customary to give them the floor, it seems to me that if you want to bring out in this discussion something of value, we will have to ask some one other than a laundryman, having the necessary technical knowledge to give us the benefit of that knowledge. With that object in view I will offer the floor to any of the associate members of our Association who are sufficiently posted on soap to answer the questions that the gentlemen may wish to ask them.

Mr. Patterson. I move that the courtesy of the floor be given to Mr. Longfelder.

Mr. Longfelder. I appreciate the honor which has been extended to me, but I really feel that it is too deep a subject to go into with the limited time at our disposal. I think you may talk about a thousand different qualities of soap, and each one might have its own particular merit, and you would find you were getting into a subject entirely too deep for thorough discussion here. Different sections require different soaps, and to talk of the actual value of the soap you must take into consideration the section, the water, and the conditions under which a man washes. I would like to give you some information on the matter, but if the subject is thoroughly gone into I feel that after it is over you will think that you have used up five or six hours of valuable time without learning much more about it than you knew before.

Mr. Taylor. The true soap, as I understand it, requires just so much tallow and so much lye, that is the caustic soda, and water. When you have that, you have a perfect soap, a neutral soap, which will not bite the tongue, or anything. If you want a caustic soap, you add that caustieity by the addition of caustic soda and water, and you can add a whole lot of it, too, to make it a caustie soap, and the moisture will not show up very plainly. So, according to my motion, the only soap we should buy under any circumstances is a neutral soap. If our water is hard we can buy caustic soda, or some other things which might be better, and soften the water, much more cheaply than we can buy it in the soap.

Mr. Sullivan. I would like to say to Mr. Taylor that in buying our soaps we usually buy about half and half caustic and neutral, and use straight Ohio River water, and we have always had good results by mixing half and half, caustie against neutral.

Mr. Taylor. You will, indeed, find good results by buying caustic, but can you buy neutral soap and then buy alkali to soften the water with just as good results, and save money.

Mr. Kelly. I would like to ask Mr. Taylor if he does not think that it would be as practicable to have as strong a soap as you want to have manufactured by the soap maker, suitable for your wash man, rather than to buy it neutral, and trust to your wash man to build it up.

Mr. Taylor. I can answer that by stating that I do not believe in buying any soap but a neutral soap.

Mr. Sullivan. In our laundry we do not use any sodas of any kind at all. We use the soap just as it comes to us from the manufacturers. I did at one time do as Mr. Taylor advises, but we always found much trouble with that method, and for a number of years we have used nothing in our place but straight soap and water, and have obtained very good results.

The President. I will call Mr. Davis, if he is in the room.

Mr. Davis. I regard the soap question, as other gentlemen have said, as a pretty big question, but it certainly seems to a soap man that the way to do is to buy your soap for soap and buy our alkali as alkali, and combine them in the proper proportions. As to the water question, it certainly seems reasonable to think that the thing you wish to buy and pay freight on is soap, and not water. If a man sells you soap and water at a cheaper price than you could get the soap for, someone is paying the freight on the water, which is useless, as water is far cheaper than soap. The way for the laundryman to do is to buy the dryest soap he can, and a neutral soap, the one best suited for the purpose, and then to build it up as he thinks best. As to the soap which will do that, experience only will show.

Mr. Kelly. Mr. President, in buying caustic soda to make soap, we buy a drum of caustic at 60 per cent.; and mine is 74 per cent. based on 60. We get a drum of caustie which perhaps will weigh 650 pounds; but we are charged by the strength, not by the weight. We will say it is 650 pounds, based on 60 per cent.; but they charge us for what it would weigh at 74 per cent. strength. Now, why cannot soap manufacturers sell soap on the same basis?

Mr. Sullivan. Mr. President, it seems to me this question is a very important one; and what I wanted to bring out in my discussion was that we should know just

the nature of the soap we are using, because we are working on goods belonging to other people. We are not working on our own goods at all. We have got to be careful. We handle thousands and thousands of dollars' worth of goods every week that belong to others, not to us; and we ought to know the nature of every thing that comes into our plant. Is it harmful, or it is harmless? That is what we want to get at.

Now, when you buy a barrel of acetic acid it is marked on the outside, "40 per cent.," "60 per cent.," "75 per cent.," "25 per cent.," or "30 per cent.," as the case may be. Why cannot the same thing be done in soap? Why can the makers not say, "This soap contains so much caustic, so much moisture," etc., and sell it on that basis? Why cannot that be done? It is a simple thing. It is done with sugar and in all other lines; and it ought to be done in soap. We ought to know just what we are using in a laundry. We should not take these things in a hap-hazard kind of a way. In our business, of course, it makes no differenec how old the goods get; they are always new in the minds of their owners. The more we wash them the thinner they get. In the course of time they play out; but in the customer's mind he has only worn them a few times, and they are new. Now, we cannot be too careful about those things.

Whitewash.

Whitewash that answers best for inside work is rarely fit for exposure to weather, and the same may be said as regards wood and brick, plaster and stone. For the latter (brick, plaster, etc.,) where exposed to weather, there is nothing better than a wash made of 10 parts of freshly slacked lime and 1 part of hydraulic cement, with the addition of five or six ounces of glue and the same amount of salt to each gallon of wash. This is the whitewash used by the United States Government on its lighthouses, etc., and none is more lasting or brilliant.

For inside work, lime is not to be compared to whiting. To prepare the latter, first make an estimate of the amount required, by measuring the surface to be whitened. Four gallons of wash will whiten 10 yards square (100 square yards) of surface, providing, of course, there is no wasting in attempts to whiten the floor and furniture while daubing the walls. To make this will require 12 pounds of whiting, 2 pounds of carpenter's glue and 1 ounce of ultramarine blue. Prepare as follows:

Soak the whiting over night in an abundanee of water, thoroughly stirring the washing, and let settle till morning. Then pour off the extra water, letting the whiting just wet enough to work up well. It should then be put through a strainer to get rid of the lumps and render it homogeneous.

The glue should also be prepared over night, so as to be "jellied" in the morning. To make it, use 8 ounces of good, clear glue to each gallon of water. Heat lightly, but do not allow the water to come to a boil, as this destroys its adhesiveness. Stir the solution frequently, and as soon as the glue is dissolved, remove the pot from the fire.

Having your whiting ready, stir in the coloring matter, add the jelly and pour in sufficient hot water to make four gallons. This will answer capitally for ceilings; but walls or parts of the indoor work coming in contact with lathing, or likely to be fingered much, should have considerable more sizing, from one-quarter to one-half more, according to circumstances. If well done, this method of treatment is preferable to painting.

For fine outside woodwork the following is better: Slack a bushel of fresh quicklime with boiling water, and cover while the proeess is going on. Strain and add 2 pecks of salt dissolved in hot water; 6 pounds of rice flour made into a paste with hot water; 4 pounds of Spanish whiting, and 2 pounds of good, clear glue, dissolved in hot water. Stir well until mixed. Keep in a kettle and apply hot. This wash is better if preserved several days before applying. When used it should be put on as hot as possible, using paint or whitewash brushes. This covering is as durable as paint and far cheaper.

Soap For Removing Stains From Silk, Calico and Other Textures.

Many kinds of soap for removing stains from different textures are on the market, and very few branches of the soap trade, so easily open to the enterprising advertiser, can show a similar array of products of which so many are valueless for the purpose they are recommended for. It is not easy to appraise the value of an article of this kind, the nature of stains influences their removal as much as the soap product which is employed to separate the stain and the texture. The materials of the textures are frequently only too eager to combine with the staining additions, and the absorption of the latter by the former is often so complete that a separation cannot be effected without endangering the texture and its color. The chemical actions of the three factors—the texture, the stain, and the soap—have to be ascertained before a successful operation can be undertaken, otherwise the result may be only an aggravation of the stain, and a small spot may end in a big discolored patch, ruinous to the use of the textile material. On the whole, stain-removing soaps do not influence the texture and its color, but the cheaper kinds, of which the public cannot be warned too often, are not so safe as could be expected, and much discredit

has been thrown on the trade on account of well-advertised stain-removing soaps whose actions were contrary to expectations and promises, and frequently ruinous to the colors.

A few recipes have been collected, and these have proved successful for the purposes the products were intended for. In many cases the stain-removing soaps are divided into classes for the different kind of textures, i.e., the materials they are made of, as silk, cotton, etc., but others can be used for many purposes, as long as the colors are not too delicate, or of a kind which resent as much the interference of a raindrop as a little soap or a tureen of soap.

A excellent soap for removing stains made by wine and vinegar has been obtained by mixing 16 parts of ordinary soap with 2 parts of turpentine and 1 part of ammonia.

The chemical expert, Mr. Klein, prepares a good soap for removing all kinds of stains in the following manner: One kilo. of castile soap and ½ kilo. of cocoanut coap are cut in thin shavings, and this is mixed with 120 grammes of alum, 30 grammes of alcohol, 250 grammes of potash lye, and 120 grammes of ox bile, when the whole substance is heated; 2 litres of alcohol, 4 fresh eggs, and 60 grammes of camphor spirits are added to the main mass on the following day, and the whole is well stirred up to make it a perfect combination.

A good soap for the removal of stains from silk can be obtained by bringing 5 lbs. of white grain soap to a melting point, when 2½ lbs. of Venetian turpentine, and the same quantity of ox bile are added; the whole has to be constantly stirred during the mixing, as otherwise the combination does not become sufficiently effective. Another method uses 12 lbs. of cocoanut oil and 6¾ lbs. of tallow, which are saponified with 8¾ lbs. of lye of 40 deg.; to the soap thus obtained, 12 ozs. of turpentine, 20 ozs. of ox bile, and about 2 ozs. of ultramarine green are added, making an excellent soap for the purpose.

The bile of the ox has become a very valuable material since it has been taken up in the different arts, and also in medicine. Curious to say, what is called the bile is a compound of several fatty acids from animals, mixed with soda. In itself it is a kind of soap; it can be called a soap created by nature, and since its existence has been discovered, it was only to be expected that the manufacturers of soap should consider it one of those materials which by right belong to them. The bile has to be disinfected to a certain extent before it can be used for the making of soap to remove stains from silk. First of all, the too rapid putrefaction of the natural substance has to be prevented, and for this purpose, the bile is opened, and the liquid is squeezed out. The obtained liquid material receives an addition of acetic ether, and the compound of these substances should be in proportion of 7 parts of ether to 100 parts of bile. The liquid bile is precipitated by the addition of the acetic ether, and it has to be carefully separated by straining if off at the proper time. This explanation about the bile was necessary to account for its use in this instance.

Another soap for removing stains from silken textures is made of the following compound: 445 grammes of grain soap is cut into very fine shavings, and mixed with 900 grammes of bile which has been dissolved by the acid; the mixture is evaporated until the substance meets the test of immediate solidification when dropped on a plate of glass. As soon as this point has been reached, 30 grammes of sugar, 30 grammes of honey, and 25 grammes of Venetian turpentine are mixed with 65 grammes of ammonia, and this compound is added to the main mass, which is still quite warm. The soap forms itself into balls, and they dry at a low heat. This is an excellent recipe, and the soap can be used for many purposes.

And now a soap which removes stains from calico, for which the following simple composition may be used with advantage: 1 lb. of white soap is mixed with ½ lb. of ox bile and 1½ ozs. of Venetian turpentine. In case ox bile is not obtainable or shall not be used, it can be substituted by hydrate of ammoniac. In case the substitute is used, 5 lbs. of white grain soap are cut into proper shavings, and these are placed in an iron tank, when 2¾ lbs. of hydrate of amoniac are mixed. To do this it can be recommeded to place the tank on a bath, and heat the substance by the steam. When the compound materials have melted, 7 ozs. of alcohol must be added, when a very solid soap will be obtained.

It will be seen that the recipes given do not make expensive soaps, an additional merit which makes the adoption of them an advantage to all in need of a method for making soaps for removing stains.—("Rev.: Chem. Ind.")

Determination of the Non-Saponifiable Components of Commercial Oleine.

[From the German of M. P. Neff in the Zeitschrift fur angewandte Chemie.]

The percentage of fat in the oleine of commerce, as is known, fixes its value. Determined by saponification, this percentage is given in liquid and solid acids and neutral fatty bodies; determined by distillation, in liquid and solid acids. The other components in general are (1) water, (2) mineral matters, (3) non-saponifiable substances. The mineral substances, iron, lime and copper, proceed from the apparatus and receivers in which

the oil has been kept, and exist in very small quantities, rarely more than one per cent. Water is also, oftenest, in very slight proportion, and may be recognized at first sight by the saline appearance of the product. On the contrary, it is as impossible to recognize at first view the non-saponifiable products of which the proportion reaches ten per cent., and which are found, too, in the products of distillation of the oleine, as the acids and neutral fatty bodies themselves.

It is only by long usage and a well practiced eye that a comparatively high percentage of hydrocarbides can be discerned by the bluish and not greenish fluorescence. Whilst the percentage of solid fatty acids—stearic, palmitic and isoleic acids—in the products of distillation causes the fusing point to vary, and whilst the neutral fatty bodies can be readily recognized by methods well known and generally employed, it is difficult to determine quantitatively the non-saponifiable components of the oleine. Although many methods have been suggested for this determination, it does not seem possible to mention one that is really practical and rapid. They are all either inexact or quite complicated, and not one of them has been generally adopted. This is sufficient to explain the great differences that appear in the results of analyses made by different chemists of the same product, differences which I have often had occasion to observe.

At the Hammonia Stearine Works at Hamburgh a process is employed which, so far as I know, has not been published, and which is not generally known. It is employed by only a few chemists. I have studied this method from the double viewpoint of its convenience and of its accuracy, and will communicate the results. Perhaps other chemists may like to examine my processes, and thus a practical and exact method may come to be adopted.

To determine quantitatively the unsaponifiable components of oleine I proceed as follows:

Ten grams of the oleine to be studied are weighed in a receiver 20 cubic centimeters in capacity, and 75 cubic centimeters of 95 per cent. alcohol are added; 5 grams of caustic potash are dissolved in as small a quantity of water as possible and poured into the receiver, and the whole heated on the water bath with upright condenser for three-fourths of an hour.

As soon as the saponification is terminated the receiver is removed and 50 cubic centimeters of water added to the boiling liquid. From the cloudiness produced the greater or less percentage in hydrocarbides can be judged. If the proportion is less than 1 per cent. the solution generally remains clear. After cooling, the contents of the vessel are poured into a funnel having stop cock and washed twice with a little water. A few drops of phenolphtalein are then added and the mixture acidified slightly with dilute chlorhydric acid and rendered somewhat alkaline by adding cautiously a few drops of potash. Exactly 50 cubic centimeters of petroleum ether are added with a pipette, and the whole shaken several times and left at rest. The petroleum ether should boil below eighty degrees and not leave a fixed residue at 110 degrees. If the layer of petroleum ether does not immediately separate from the solution of soap it will be necessary to add only a few drops of alcohol to cause the separation. The solution of soap is allowed to flow off and some drops of petroleum ether are added to the aqueous solution; 25 cubic centimeters of the etherized solution are taken with a pipette and poured into a tared glass, evaporated on the water bath, dried at 110 degrees to constant weight, and the residue weighed. The quantity found, multiplied by 20, gives the percentage of the hydrocarbides of oleine.

It is evident, that when the extraction by petroleum ether has been effected, the volume of the latter is no longer equal to 50 c.c. To measure the diminution in volume, I perform the operation in a thin graduated test tube, 250 cc. in capacity. By taking 50 c.c. of petroleum ether I have always observed that the volume of the etherized layer was after shaking no more than 40 c.c., while the volume of the soap solution had increased from 9 to 10 c.c. This quantity of petroleum ether had therefore been dissolved in the liquid, or 20 per cent. of the total quantity. The following question may therefore be raised: Is the result obtained 20 per cent. too high? That is, if the analysis indicates a proportion of hydrocarbides of 6 per cent., is the real percentage only 5 per cent. or does the dissolved petroleum contain the same proportion of hydrocarbides as the supernatant layers? On the other hand, the results would be too small, if the greater part of the hydrocarbides were dissolved in the dissolved petroleum, and if the supernatant layer contained only a slight proportion. Experiment alone could answer these questions and determine the exactness of the method. So it was decided to institute tests on pure oleine with the addition of variable and known quantities of hydrocarbides. The proportion in large quantities of the hydrocarbides presented at first some difficulty. They are not pure paraffines and therefore paraffines could not be employed. An attempt was consequently made to utilize the last products of distillation of the fatty acids in which the hyrocarbides are concentrated, so to speak, in order to separate all of them. No result was reached by saponifying the mass with lime and magnesia, and afterwards extracting by benzine the calcareous soap which dissolves completely. It is also impossible to shake the solution of sodic soap with benzine, for, in presence of such a strong proportion of hydrocarbides, this soap is insoluble in water and is drawn off by the hydrocarbides.

After a number of fruitless trials, the objeet was aceomplished by the following proeess, a proeess whieh may be employed with some modifieation for eliminating the hydroearbides.

A weighed quantity of the produets of distillation eontaining about 70 per eent. of hydroearbides is heated 120 degrees and saponified by the ealeulated quantity of caustie soda dissolved in twiee its weight of water. After a time, suffieient sawdust is added to the mass while shaking and heating to render it seemingly dry. The heating is eontinued until there is no disengagement of steam. It is left to eool and then plaeed in an extraeting apparatus with benzins until the liquid whieh flows from it is limpid, whieh oeeurs in a short time. The benzine is evaporated and the residue dried for some hours at 110 to 120 degrees. The hydorearbides are thus obtained almost quantitatively, while the soaps remain with the sawdust.

With oleines absolutely free from hydroearbides, and with the hydroearbides thus procured, oleines are prepared of determinate pereentage in non-saponifiable substanees, sinee the analysis of the samples thus prepared can be effeeted by the method already deseribed.

The following table gives the results:

QUANTITIES OF HYDROCARBIDES.

Samples. Nos.	Added. P.e.	Found. P.e.	Samples. Nos.	Added. P.e.	Found. P.e.
1.....	1.84	1.90	7.....	4.75	5.00
2.....	1.00	1.10	8.....	6.08	6.23
3.....	1.20	1.35	9.....	7.03	7.15
4.....	2.50	2.70	10.....	8.12	8.32
5.....	4.08	4.20	11.....	9.90	10.07
6.....	2.42	2.45	12.....	10.50	10.75

As may be seen, the analytieal results eorrespond very nearly with the faets; they are a little too high, proeeeding under the best operative eonditions, from the evaporation of the petroleum ether (½ to 1 e.e., aeeording to my researehes, when 50 e.e. are used). If aeeount is taken of this loss, results strietly exaet ean be seeured. Still, without the eorreetion, the differenees are so slight that this method ean be reeommended for the determination of the hydroearbides in oleine.

In some extreme cases the first advertising mediums needed by merehants who have never advertised are soap, paint, putz pomade and elbow grease.—*Printers' Ink.*

E. A. Webb, T. P. Thornton, W. Urquhart, and others, have organized the Industrial Soap & Oil Co. at Toronto, Ont.

QUESTIONS AND ANSWERS.

In this column we shall print questions of general interest submitted by subscribers and invite replies to the same from our readers, which will be printed in the next issue of this paper.

QUESTIONS.

QUESTION No. 32. I am running a 25 H. P. engine with an upright boiler of 35 H. P., burning coal. Can anyone put me in the way of using erude oil for fuel or refer me to someone who is sueeessfully using it? D. G.

QUESTION No. 33. The soap I make mostly is eomposed of 40 per eent. eoeoanut oil, 40 per eent. olive oil, 20 per eent. eotton stearine and is sold to ehemieal works. About last July we purchased stoek as mentioned and I eommeneed boiling it as usual; the soap finished very nieely, but after eutting into bars they beeame dry, dark and raneid within two or three days. I have always used the following process: Charged the kettle with 30,000 pounds of stoek, saponified with lye from 14 to 28 degrees, also the strengthening eharge with weak lye and finished with a little water. I have reboiled the soap many times and I boiled new stoek in different ways and got a niee finishing in the kettle with all the signs. Could anyone aeeount for the reason he would oblige me by publishing it through this paper..—PUZZLED.

ANSWERS.

To QUESTION No. 31: (1) Have never before heard of "Leseas" oils. Mineral oils may be *mixed* with soap, but soap-ehemists are making no progress in bringing about a eombination with alkali, and prospects for doing so at some future time are not flattering.—M.

(2.) If Enquirer will explain what Leseas oil is, or where it ean be proeured, I should like to test the aid of this oil for the purpose mentioned. Think I am able to judge whether eomplete saponifieation or only a solution of one in the other takes plaee, and shall be glad to publish result after investigation.—N.

ANSWERS IN BRIEF.

D. E.: If on receipt of this you have no detailed letter from us, it will arrive soon after. The last days of eaeh month are always our busiest.

E. B.: It is eommonly reported that there are four or five of the maehines in question in use in this country. We have not aetually seen them in operation exeept on exhibition.

K. M.: Saponifieation of fatty acids by carbonates is of eourse quite possible, but like everything else new it requires practieal experienee. Much remains to be learned on this point. One reason why it is not more freely used in Europe is probably the direet fire under the kettles still in use there, whieh is said to greatly add to the diffieulties.

PATENTS AND TRADE-MARKS.

The following list of recent Patents and Trade-Marks is reported by W. G. HENDERSON, Solicitor of American and Foreign Patents and Trade-Marks, Norris Bldg,, Washington, D. C. A copy of any of the following will be furnished by him for 15 cents.

PATENTS.

709,016. Washing machine. Mary E. Kelly, Jackson, Ohio.

709,143. soap-holder. Anton E. Dusek, assignor of one-half to J. W. Dusek, Crowlake, S. D.

709,813. Washing machine. Andrew G. Brandt, Scranton, and D. L. Griffiths, Olyphant, Pa.; said Brandt assignor to said Griffiths.

710,939. Soap cake. Washington Berry, assignor to Berry Buoyant Soap Company, Chicago, Ill.

711,264. Soap-saving device. David Rothschild, Allegheny, Pa.

711,275. Washboard. Percye C. Barton, Childers, via the township of Thropdale, Victoria, Australia.

711,317. Washing machine. Eugene L. Howe, assignor to Michigan Washing Machine Company, Muskegon, Mich.

711,403. Antiseptic soap cake. Eugene Klein and O. P. Workman, Grand Rapids, Mich.

711,407. Washing Machine. Horace J. Lockhart, Astoria, assignor of two-thirds to C. A. Morris and B. W. Osborn, Toledo, Ohio.

TRADE-MARKS.

38,915. Soap. Goodhair Remedy Company, Newark, Ohio. The word "Goodhair" and the bust portrait of Fred Johnson, of Newark, Ohio.

38,990. Castile soap. John S. Nicholas, New York, N.Y. The words "La Virtho."

39,039. Soap. The Kendall-Davis Company, Boston, Mass. The word "Stainilgo."

39,040. Soap. The Bell Mfg. Co., St. Louis, Mo. The word "Kimola."

39,989. Greases employed in soap-making. Aspegren & Co., New York, N. Y. The word "Success."

DESIGNS.

36,078. Soap. Charles A. Crary, Huntington, W.Va., assignor to Enterprise Soap Works, Nashville, Tenn.

AROUND THE SOAP FACTORIES.

News-items sent us by our readers will find prompt attention in this column

Local papers are elated with the success of the Durango, Col., Soap factory, and are encouraging their their readers to keep it growing.

Stephen A. Maher's soap works at Mattapan, Mass., is being overhauled and repaired extensively.

Susan W. Arthur, individually and trading as the Green Chemical Company and also as the Whittaker Soap Company, of Philadelphia, was adjudged a voluntary bankrupt in the United States District Court. Liabilities, $4,835.26; assets, $4,638.44. Byerly Hart referee.

Plans have been prepared by architects for a new conveyor house for Fels & Co.'s soap works.

In their tussle with the Board of Health, Garrett & Spalding, present owners of the soap factory at Charleston, Mass., declare that the factory has been there unmolested for over eighty years, but that no sooner had the new firm taken a hold than they were attacked by complaints. They are, however, making changes to obviate all possible causes for complaint.

The Parfumerie Ed. Pinaud (Victor Klotz) is erecting a building of its own at the corner of Fifth avenue and Fourteenth street, New York.

A number of advertisements in this paper have been changed this month, and we recommend our readers to look over them all.

The Consolidated Naval Stores Co., with a capital of $2,000,000, is being organized by half a dozen of the largest concerns in Georgia and Florida, with headquarters in Savannah and Jacksonville and branch offices in New York and Chicago. The object avowed is to effect a saving in simplifying the business, cutting down the clerical forces, and weeding out the middleman in the export trade.

At a meeting of the G. P. C. of the Grocers' Federation in England recently, it was resolved: "That it be referred to the Parliamentary Committee to see if the Soapmakers' Association can arrange to have some more definite standard of weight of bars and tablets."

According to a note in the Literary Digest. the price of metallic calcium, now nearly $2,000 a pound, is likely to be rendered less than 50 cents a pound by an invention of Prof. Borchers of Aix-la-Chapelle. Its great use will be in chemical research and in the production of new organic compounds, for which purposes there has long been a demand for a reducing or deoxidizing agent stronger than aluminum, magnesium or zinc, and weaker than sodium and potassium. It is also likely to be of great importance in the iron industry. At present aluminum is used to free iron from sulfur and phosphorus, the result being an iron containing aluminum, which, though less injurious than sulfur or phosphorus, is still undesirable. If calcium, as there is reason to be-

lieve, dissolves but sparingly in iron without injuring its strength and tenacity, the iron industry will create an extensive demand for the new metal.

The American Vacuum Drying Machine Co. is the successor to Alex. P. Mende, and has its works at New Hamburg, N. Y., with offices in New York at 120 Liberty street. Note also corresponding change in the advertisement of these drying chambers on another page.

Mr. A. W. Stanley, manager of J. O. Draper & Co.'s soap works, Pawtucket, R. I., has returned from Europe.

The Erandeline Manufacturing Co. at Hoboken, N. J., is a new incorporation, organized to manufacture cleansing fluids. Capital, $200,000. Incorporators, Charles H. Disbrow, J. Warren Bird and E. A. S. Lewis.

The Enterprise Soap Works of Nashville, Tenn., has filed an amendment to its charter, increasing its capital stock from $100,000 to $300,000 to meet the growing demands of its business. New kettles and other apparatus are to be added also.

Swift & Company are erecting rendering plants at Burlington, Vt., and Albany, N. Y.

The Packer Soap Co. has one story of its new brick building at Mystic, Conn., completed.

The Medicine Soap Co., Jersey City, N. J., has increased its capital, according to reports filed, from one million to ten million dollars (?).

Owing to the bursting of a large cooler on October 11th, fire broke out in the new and large fish oil works of Charles Wacker & Co., on Chesapeake Bay, Maryland, and destroyed the main building and machinery almost entirely. Estimated loss, $10,000.

J. W. Bickerstaff of Richmond is contemplating the erection of a soap factory at Berkley, Va.

The Bell factory on Lucas street will be considerably enlarged when the negotiations referred to are closed. The deal will not be closed for several weeks.

A receiver for the American Naval Stores Co. of New Orleans, has been applied for. The concern, which has a number of branch houses, was incorporated less than two years ago with a capital of a quarter million dollars.

Mrs. Christopher Lipps, the widow of the former well known Baltimore soap manufacturer, and mother of F. W. and Edward Lipps, now actively engaged in the Chr. Lipps Co., died on August 28th. The two sons named have been appointed administrators of the estate.

The Pomona Extract Co. of Pomona, Cal., will branch out into the manufacture of perfumes.

The St. Croix Mfg. Co., of St. Stephen, N. B., is planning a three-story 30 by 40 addition to its soap factory.

F. S. Bell of the S. W. Bell Soap company, Toledo, O., plans to enlarge the company's plant. For that purpose a company, capitalized at $50,000, is to be organized. Mansfield and Cleveland men, together with the members of the present Bell company, will be interested.

William Heppe & Sons, of Logansport, Ind., have awarded contracts for erecting a two-story brick addition, 50 by 110 feet, to their soap works. The addition is to be completed this fall.

A somewhat novel complaint has been made against a soap factory in Charlestown, Mass. The petitioners ask for the removal of the factory on the ground that "it is a public nuisance." In their application for a hearing they go on to state that "the odor from it (the factory) is at times unbearable and requires us to close our windows; also at times the smoke from the factory's chimney beats down upon our houses and in to our windows, in which said smoke has sometimes sparks of fire and is liable to set fire to our buildings; that said smoke has a number of times set fire to a building owned by them, (the owners of the factory) endangering other buildings in the neighborhood."

ABOUT

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wire or write

J. F. MOSSER & CO.

218 La Salle Street,

CHICAGO, ILL.

The American Soap Journal & Manufacturing Chemist.

A MONTHLY JOURNAL OF THE MANUFACTURING CHEMICAL INDUSTRIES.

DR. HENRY GATHMANN, PUBLISHER. 2707 North Ave , Milwaukee. MILWAUKEE, WIS., December 1, 1902. VOL. XIII. No. 4.

THE

AMERICAN SOAP JOURNAL

AND

MANUFACTURING CHEMIST.

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SPACE ON COVER DOUBLE RATES.

For Rates and other Information concerning small advertisements of **WANTED** and **FOR SALE**, see Announcement at the head of that page.

OFFICE OF PUBLICATION:

2707 NORTH AVENUE, MILWAUKEE, WIS., U. S. A.

The AMERICAN SOAP JOURNAL AND MANUFACTURING CHEMIST is devoted to the interests of all manufacturing industries of a chemical character, and is an absolutely independent publication. It is the only newspaper of its kind in America and has also a large foreign circulation.

For Subscription and Advertising rates see above.

Communications on industrial subjects, news items, and any information suitable for printing in these columns, are solicited and will have due attention.

Readers in search of machinery, supplies etc., not advertised in these columns, are invited to write us and we shall endeavor to supply the information.

Address all communications to

DR. HENRY GATHMANN, Publisher,
2707 NORTH AVENUE,
MILWAUKEE, WIS., U. S. A.

A propos of our recent comments on the weirdness of most patented soaps, a subscriber remarks: We get all specifications relating to inventions in soap as soon as patents are issued, and among our entire collection of these we have not one which will produce anything—except hilarity when being read by a soap maker.

The new Chinese tariff imposes the following duties: Household and laundry soap (including blue mottled) in bulk, bars and doublets weighing not less than one-half pound each, per picul, 240 haikwan teals; toilet and fancy soap, 5 per cent.

The picul equals 133 1-3 lbs.; the haikwan teal equals about 63 cents of our money.

The following letter, received in this office, gives an idea of the joys and sorrows of the editor of a Soap Journal; it is not an isolated example of its kind, but merely a representative of a certain kind of correspondence, and a *bona fide* one at that.

"EDITOR SOAP JOURNAL: DEAR SIR—I contemplate going into the business of manufacturing soap. In your opinion do you think that a man of sueh intelligence as the writing of these lines indicates, could succeed in the soap business if he had your book on soap making? What is the net cost of same? Should you think not, can you recommend me a good, honest, industrious, sober and practical, married soap maker? What is the net eost of a small soap making outfit? Could you refer me to some one having a good second-hand outfit for sale? If so, or not, where ean a new one be bought? And at what eost? What, in your opinion, are the prospects of success for an inexperienced man engaging in the soap making business? What are the principal ingredients of common soaps? And their net cost per pound? Would the trust, in your opinion, fight such a small concern? I would be pleased to have your unbiased opinion on this matter, and also kindly request you for a free sample copy of your SOAP JOURNAL. Thanking you in advance. ———— ————."

Thinking it best to bear this sort of affliction alone we have not printed these questions in our Question column. So please, everybody, don't attempt to reply.

But the Question No. 34, which we do print is one which we are asked from time to time, sometimes by for-

eign soap makers intending to come to this country, and sometimes by foreign manufacturers contemplating engaging an American soap maker. Perhaps some reader will reply to the question in this paper. Privately, we have answered it a number of times, to the best of our ability, but additional light from some of our readers may serve to improve our replies in future.

The conference between President J. A. Van Hoose of the Southern Wholesale Grocers' Association, and the soap manufacturers was without final result. Three or four leading soap manufacturers were not represented and nothing final could be done without them. Mr. Van Hoose will visit the headquarters of these concerns and endeavor to make some arrangement whereby the number of brands of soap will be reduced and the list of jobbers reclassified. The wholesale grocerymen consider it unfair for manufacturers to sell direct to retailers The manufacturers would prefer not selling the retailers, but many of that class have crept in on the wholesale list under the guise of being wholesalers.—[From Memphis (Tenn.) daily papers of Nov. 13.]

There are all kinds of receipt books and trade papers that, for some reason or other, profess to give information on soap making now and then. The formulas and directions published by them are excessively queer at times, but such antics pall on the taste for curiosities and as a general rule we have long ago ceased to pay attention to them. But a subscriber to this paper has noticed in a technical paper a formula of this description (and called our attention to it) which is a distinctly new departure and for that reason deserves to be handed down to future generations. It is for a cocoanut soap and reads: "Heat 1,000 lbs. of cocoanut oil to 120 degrees F., and saponify 560 lbs. of pure caustic soda lye of 39° B. The soap is filled hot with the following filling: Water (nearly boiling), 40 gals.; water glass 100 gals.; calcined soda, 90 gals.; common salt, 20 gals."

Whether it is advisable to measure soda and salt by gallons in such or any other formula, how lye is saponified, how heating oil and "saponified lye" are to make soap, and what the value of the whole formula is, are questions for the solution of which a prize might be offered. As our correspondent remarks: This is a recipe as is a recipe.

"And I said in my haste: all men are liars." Thus quotes a correspondent on another page of this paper. The original quotation appears in a book which we may well take as a guide in all our dealings and so we admit the word without question. Between the carrying in one's pocket of a supposedly funny "Liar's License" issued by the "Liar's Council to Our Well Beloved Subject," and the hair-trigger drama enacted time without number at the mere mention of the name, the word liar has had a checkered career and a great deal to answer for. And here comes our correspondent and deposeth and saith that he should like to have our unbiased opinion on the question of liars, lies, and lying.

The truly virtuous man might pass the subject in one brief sentence; a fairly versatile writer could fill volumes on the subject without stopping to write except for meals and sleep; as editor of the SOAP JOURNAL the subject is absolutely foreign to us. But we are writing so much on soap all the time that a change of subject for a few lines seems like a pleasant diversion and having been asked the question, shirking it is perhaps more ticklish than answering it. So we will commit ourselves on this point and don't care who knows it.

Before arguing the question at all, it is well to be agreed as to what we are talking of, and so we must first define the word liar. We have not looked up a dictionary and don't want to. "One who knowingly says what is untrue" might be a working formula for our purpose. On the basis of that definition we are firmly convinced that very few people could escape being caught in its meshes now and then. But a person who on one occasion or two overate could not be called a glutton for all time on that account; yet it is not necessary to murder more than once to be called a murderer. A man is not a liar (in our humble opinion) because he occasionally departs from the strict truth; he becomes one when he habitually tells what is not so—that is one kind of liar—or when he speaks a falsehood from choice rather than from a good motive—that is another kind—or when he does it from sinister motives—that is still another. (As the funny papers have it there are three degrees even of liars to-wit: the liar, the d— liar and the expert witness).

There are (in the novels at least) men, who, being wealthy enough to afford the luxury, will adhere absolutely to the truth always, in business matters, and in personal affairs they are described as truthful to the point of actual brutality. They are certainly not the rule.

The average person loves truth for its own sake and will adhere to it at some sacrifice; but when driven into a tight corner he will lie unscrupulously, if by doing so no great harm is done to others and much is gained for himself. The average person also does not trouble himself about drawing a very close line between exuberant enthusiasm and mild prevarication, as witness the fisherman, the hunter, the salesman and others.

Finally, there are those who lie by choice, by intention, by inclination and preference; who prefer telling a good lie to a square meal; they are not very numerous

and if you meet three in a life-time you must live long or travel extensively.

As between them, mamma who tells the baby boy that the stork brought him, or the novelist who invents pages of a story which pleases as must as it is devoid of actual truth, are angels compared to the man who will speak the truth even if it break a heart. At least we think so.

No sooner is any trade association gone to pieces than the former members, by redoubled efforts to injure everybody else, proceed to demonstrate the great need existing for such an association. But such a demonstration was not needed and only operates toward creating new obstacles in the way of a mutual understanding in the future.

It took over ten years to overcome the failure of the first soap makers' association. Another attempt to promote a friendly feeling among competitors was finally made and succeeded for a time; now, it seems, it is to be the old story over again; the greater the friendship at first, the more bitterness now.

There is, however, the one supreme consolation: "The sober second thought of the American citizen is always correct." Conditions in the soap trade are in a bad way; its followers are apparently anxious to demonstrate how bad things can be, when unrestrained by mutual concessions and by a feeling of mutual interests. After a little the sober second thought will assert itself. It is not a compliment which the soap manufacturers are paying themselves just now when in the midst of prosperity all around them they almost alone among hundreds of industries fail to prosper in the manufacture of an article which is an absolute necessity. And it will not remain so. The question now is: What next? Instead of dropping the feeling of mutual interests, it seems to us not a moment should be lost before taking the latter up again in a spirit of absolute faith in ultimate success. If there has been something like an earthquake, rebuilding the shattered structure in a public spirit can alone help the industry; there is no help possible from prowling around among the ruins for a little temporary gain.

What is there peculiar to the soap business that distinguishes it so painfully, in the point of prosperity, from nearly all other manufactures *the world over?*

In this country we all know the conditions; from Australia, Germany, France, England, from everywhere in fact, comes the same story. In Cuba, we are told beef, bread, soda, even sugar, are at excessively high prices and only tobacco *and soap* are cheap.

Competition is strong in almost every field of manufacture, but except in the case of soap it does not show itself so much in low prices as in measures calculated to win trade *without* selling at ruinous prices.

Undoubtedly there are many causes. One of them we take it, is that the public can not sufficiently discriminate between the different qualities and their respective values. Poor soaps are offered at a low price and the better grades suffer in comparison—they are sold too cheap therefore, in order to compete. If the consumers knew more about the real value of soaps, it would be the good qualities that would sell better and the poor grades that would be all but wiped out by competition.

Perhaps these thoughts expressed above are really our own; perhaps we have been unconsciously led to them by the letter of Mr. Schmidt, printed on another page. Mr. Schmidt not only sees in the education of the public the ultimate salvation of the soap business, but believes that, since such education is necessarily a slow process manufacturers owe the results of its prosecution to their successors at least if they cannot profit from it themselves. The show cases photographed for our last (November) Soap Journal were a small attempt in that direction. The tendency and whole effort of the present-day business man is not only to make money, but to make it without waiting any length of time. If Mr. Schmidt's idea is called visionary, actual methods in use to-day are certainly most unsatisfactory also. If no way can really be devised by which the trade conditions can be materially benefitted in the very near future, it is all the more reason why the possibilities of improvement later on should be investigated thoroughly. The heads of the leading manufacturing houses have wrestled with the problem, not without marked temporary success, but the final outcome has been very discouraging after all. The efforts to secure joint endeavors for bettering this business must and will be taken up again but in order to be of more lasting effect they must necessarily be on somewhat modified lines. Here, perhaps, Mr. Schmidt's idea is not a bad one to incorporate; he believes that show rooms should be maintained in different cities, at the joint expense of a number of manufacturers, and that at these show rooms the public should be introduced to really meritorious articles and taught the uses of good soap and how to discriminate in the selection; the advantages of American products over imported articles could here be demonstrated while of course such demonstrations would be valuable as advertisements for the brands so shown; moreover the importance of the liberal use of soap to the welfare of the home and the city could be demonstrated (with good results to the soap manufacturers

in the form of increased consumption). It takes many heads to devise a really good plan and these suggestions are offered here in a rather crude form; would it not be possible to agree on some really practicable procedure along these lines if a few more manufacturers will direct their attention to it?

If we contrast the interior of the places maintained in various cities for the simple exchange of wrappers for premiums, with what such places might be made to do under a well thought out plan, we cannot help thinking that a great opportunity is somehow allowed to go to waste.

And if you do not like these ideas, do not simply stop at condemning them all by yourself but see if you can improve on them!

Why Is The Soap Business So Unsatisfactory When All Other Trades Are Booming?

Chicago, Nov. 25, 1902.

Editor American Soap Journal—

Dear Sir: Perhaps it would interest some of your readers to read a copy of a letter which I wrote to a party who desired further details in regard to the co-operation amongst soap manufacturers and "systematizing the practical work in soap factories," as outlined by me in former numbers of your SOAP JOURNAL. It is much to be regretted that so few manufacturers in our line speak their minds in the pages of your publication—no one need to mention such points as are not yet fit to be printed. Does not the following letter show that there is much to be done for the future welfare of our trade? Such matters can only be attended to by concerted action.

(Following is the letter referred to above.—Editor A. S. J.):

Dear Sir:—Glad that your letter gives me an opportunity to explain more directly what I have tried to outline in the American Soap Journal in regards to a co-operation amongst soap manufacturers.

You refer to some of my explanations as "dreams." No one knows better than does the writer that some of my suggestions and plans will not be carried out in every detail while I am alive. Were I a beginner in business you would have the right to call me an "illusionist," but if you consider the facts so kindly illustrated by the editor of the Soap Journal in the November issue, you must acknowledge that a man who has made a steady growth in an ever-changing city like Chicago ever since 1875, must have done quite a bit of *practical* work.

There are many points in connection with the co-operation of soap manufacturers which cannot be discussed publicly for many reasons. It is the same here as in public meetings; most details are referred to committees to put into shape before they are acted upon.

Had you used the word "ideals" instead of "dreams," I should have agreed with you fully. The building up of a prosperous business is like the erection of a new house; correct and clear ideas of what is needed in order to be an improvement on the old structure are the first steps. Then comes the making of the plans, and last, their execution. I endeavor to do my share towards making the future of the soap business prosperous. Perhaps it is the German in my nature which tells me that it is not right and proper to only chop down trees, cut them up for lumber and make money by doing so. Everybody should also plant for future generations (excuse me for again referring to my recent stay in Europe, but I was so deeply impressed with the many lessons received while examining the German system of forestry, that I cannot help speaking about it occasionally).

If one goes through the world with eyes open one cannot help noticing that other professions and callings do much more in the interest of their trade, and by doing so not only benefit themselves, but the community at large as well. Pure food shows are arranged to show the progress made in one direction. Even farmers come together yearly in their county fairs and elsewhere to show the products of their farms, and so do many others. Why should not soap manufacturers do the same thing? Their profession is certainly as important, and perhaps more so than most others.

The commissioner of health in Chicago, in a circular recently issued, says:

"Cleanliness is not only next to Godliness, but it is the only safeguard against typhoid fever. Cleanliness of the person; cleanliness in every detail of housekeeping; cleanliness of everything, etc., etc."

If a number of progressive soap manufacturers would club together and establish in every city a show room, something like that which has been photographed for the November number of the Soap Journal (of course, demonstrations are necessary which show the principles of "washing"), it will be a surprise to most people how the simple act of rational washing can be developed (into massaging, shampooing, manicuring, pedicuring, etc., etc.).

The science of external applications may in a large measure be expressed in the words "Assistance in the removal of the cause without doing any injury," and well made and properly selected and used soaps are by far the best means to remove minutest undesirable waste matter (and what inevitably accompanies it) from all surfaces. To make people understand these facts to their full extent would increase the use of soaps wonderfully.

Is it proper to expect individual firms to do that, or ought an association of soap manufacturers attend to it? Such plans as are outlined in my former communications to the Soap Journal would not interfere with individual efforts. Manufacturers would contribute to the maintainance of the exhibit and demonstration rooms, which would form a distributing center at the same time, in proportion to the amount of their goods sold.

That further "filing" of this plan is necessary is a matter of course. The great trouble with most of my colleagues is the fact that they read over hastily the results of my brain work and simply criticise instead of doing better. I am always willing and ready to do my full share of any and every duty which falls to my lot, but there I draw the line and give others a chance to do something which helps to elevate our calling in the eyes of the public, and increases the uses of our products.

Should you desire to witness how many new and valuable properties of good soaps can be demonstrated in a show room, call on yours truly,

GEO. A. SCHMIDT, SR.

P. S. The way the soap business is carried on nowadays is very much like the devastation of our American forests; if we keep on there will be nothing left for those coming after us. Can you truly say that you have found the results of your hard work satisfactory?—that is, where the "dreamer" got ahead of you? I have found much satisfaction in using my time making improvements in soaps and in the means for making them, rather than waste energies in foolish competition.

G. A. S.

What Harm The Chemists' Work Has Wrought In The Soap Industry.

Frequently the "soap chemist" has been referred to in a manner which in my mind prompted the desire to know "what harm the Soap Chemist has wrought in the soap industry." The chemist referred to in this connection was usually termed the "Soap Chemist." I presume the soap boiler who has learned to make a number of tests with the aid of a few burettes and standard solutions might be termed a "soap chemist," or he may be a person who has had a good training in chemistry—may be in general analytical work—and after posting himself on such tests and analyses as may be applied in the soap industry he has probably procured a position as chemist in a soap factory.

What chances there are for the first-named to develop into an efficient chemist, or the latter to become an expert soap boiler, depends largely upon circumstances, opportunities and their individual adaptability to the branch to be mastered. No doubt the soap boiler will make some serious mistakes while he is learning, he may be tempted to undertake improvements necessitating complete deviation from the customary course—something he would not have dreamed of doing had he not been misguided through a feeling of confidence in his ability to make improvements—something that was probably away beyond his calibre. The chemist learning the art of soap-making is likewise liable to make blunders, although he has a decided advantage inasmuch as he is able to predetermine what changes are taking place chemically under certain conditions. The chemist is not capable of directing the manufacturing department until he knows as much or more about the different operations than the soap boiler, and if he attempts to give directions before he is practically equipped, there is bound to be trouble. If we imagine the soap boiler developed into an expert chemist, and on the other hand the expert chemist to have acquired an amount of practical knowledge of the art of soap-making quite equal to that of the expert soap boiler, then neither has any advantage over the other.

No doubt many a young man, after receiving a good general education, has been placed in a position where he has been given every opportunity and all the necessary instructions to make a first-class soap boiler of him. Can anyone imagine that his chances of success would have been impaired in any way had his education been supplemented by the study of chemistry and the allied sciences of physics, mineralogy, crystalography, microscopy, etc.? During the course of his studies he has probably been taught never to bring together two different substances without previously determining the result. For instance, had the person, who first introduced tin-crystals, been able to predetermine the result of bringing this chemical in contact with soap, directly and indirectly there would have resulted a saving to the soap industry amounting to millions of dollars during the past 25 or 30 years. In a single instance this chemical ruined the trade of a brand which was improved in appearance, but severely damaged in quality.

Do some people apply the term "chemist" to any one who is familiar with a few chemicals, or one who has learned to mix certain chemicals in their combining proportion, or to any one who has been taught to make a number of chemical tests in a purely mechanical way? Probably the trouble complained of about the "soap chemist's" mischief in the soap factory was due to a lack of care in selecting the right man. May be he really was an expert chemist who would have been extremely valuable in the coal-tar branch or the iron or steel industry. May be he was only a fair soap boiler who was spoiled by his own blunder in imagining that he was a chemist. "And I said in my haste: all men are liars." Notwithstanding this statement of the ancient philosopher I would certainly expect to give a good reason for

the charge, if I felt inclined to call any man a prevaricator. Will some one state "what harm the chemists' work has wrought in the soap factory" so far? Give the poor "soap chemist" a chance to explain; probably you do not know the circumstances. Just say what harm he has done and then give him a chance to defend himself. If he is any kind of a man he will probably talk back, and then probably those who have been inclined to underestimate his importance will make a proper apology.

B. FAIR.

Patent Soap Boiling and Finishing Machine.

Louis Gottschalk of Chicago has obtained, and assigned to the Brownie Soap Co. of that city, two patents, under date of Oct. 21, 1902. One of these is for a "Soap Boiling and Finishing Machine" and the other for a "Soap-Plotting Machine." The latter is apparently designed for use in connection with the former.

The Soap Boiling and Finishing Machine, according to the illustrations (which we omit) has considerable general resemblance to the French Continuous Dryer in its outlines and is described in the specifications as follows:

Be it known that I, Louis Gottschalk, a citizen of the United States, residing at Chicago, in the county of Cook and state of Illinois, have invented certain new and useful Improvements in Soap Boiling and Finishing Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to a novel construction in a soap boiling and finishing machine, the object being to provide a device of this character in which a continuous process of boiling, congealing, finishing, and cutting into chips is performed without intermittence betwen the various steps; and it consists in the features of construction and combinations of parts hereinafter fully described and claimed.

My invention is based primarily on the fact that a material can be thoroughly boiled in very small quantity in a very short time, whereas in bulk it requires a very long time. To this end I have constructed a machine comprising two parallel standards A, in the upper portions of which are journaled a plurality of pairs of rollers B, C, D, E, and F, said pairs B, C, D, and E being located one below the other, so that material passing between the rollers B will drop by gravity upon the rollers C, pass betwen the latter and drop upon the rollers D, and so on. Cross-pieces F, secured at their ends to the side edges of the standards A above the rollers B, form a receiving receptacle or hopper G, of which said rollers B form the bottom. Said rollers are driven at varying speeds by means of gearing, special description of which is deemed unnecessary, but which is so arranged that the rollers B are driven at a given speed, the rollers C at, for example, twice the speed of the rollers B, the rollers D at twice the speed of the rollers C, and so on, the rollers E and F running at the same relative speed, but at greater speed than the rollers D. The relative speeds may of course be changed and varied as may be deemed advisable. Said rollers B B C C, &c., are geared to each other by means of intermeshing gear-pinions, and at least one roller of each of said pairs is journaled in a sliding box H, so that it may be adjusted toward or away from the other, as desired, said sliding box H being moved inwardly by means of a set-screw I and adapted to be held the desired distance from the other roller by means of the pressure of the material passing between said rollers. The distance between the rollers of each pair is successively smaller from the rollers B down, so that the material is gradually rolled into a very thin film. Said rollers are hollow and are suitably connected with a source of supply of a heating or cooling fluid, as desired. Said rollers B, C, and D are connected with stand-pipes J J and K K, the former being connected with a source of supply of a heating fluid by means of the pipes L, while said pipes K K form the exhaust or drain. The ingredients passing between said rollers will obviously be heated, and thus form soap, being at the same time kneaded to a certain extent. To prevent the material from adhering to said rollers, a scraper M is provided for each of same, said scrapers each consisting of an angle-iron having a sharp edge bearing against the roller at a point adjacent the point of exit of the material passing between each pair. Each of said angle-irons is pivotally mounted in said standards A and held normally in position to scrape the roller by means of a weight N, mounted upon the free end of an outwardly-extending arm carried by said angle-iron. Said rollers E E are not provided with scrapers, but the soap as it passes between the same adheres thereto and divides itself over same and is carried around and into contact with the rollers F F, the surfaces of which are slightly roughened to cause the soap to adhere thereto, so that said rollers take said soap from the rollers E E. Two scrapers M are provided for each of said rollers F, the outermost one of which is serrated at its edge, as at O, so as to remove one-half the soap adhering to said rollers, while the inner scraper has an unbroken edge and removes the soap not removed by the outer scraper, the soap being thus removed in ribbons or chips of equal width.

The connections between the rollers B B, C C, and D D and the source of supply of heating fluid are such that I am enabled to heat each pair to any desired temperature relative to the others, and I so manipulate

these connections that said pair of rollers B B are heated to the required temperature for boiling the soap, said pair C C to a slightly lower temperature, so as to partially congeal the soap, while at the same time said rollers serve to knead the soap and press out any air-bubbles that may have formed therein in mixing the ingredients and in boiling, thus insuring homogenity to the mass. Said rollers D D are, again, less hot than the rollers C C, so as to still further congeal the soap, while at the same time they further knead it and press it into a still finer film, which then passes down to the rollers E E, which are not heated, and hence serve to finally congeal the soap and at the same time to finish it by imparting to it a glazed surface. The chips leaving the rollers F F fall upon an endless open-work belt P, thence upon a second belt Q, and thence upon a third belt R, said belts carrying said soap back and forth through a drying-room to dry said chips, the same being carried thence to other apparatus for further treatment.

By means of this machine I am enabled to perform the processes of boiling, congealing, finishing, and cutting into chips in a remarkably short space of time, so that I can each day make just the quantity required to fill orders, and thus save storage and handling. Besides these advantages I save a great deal of labor in the manufacture of the soap.

I claim as my invention—

1. In a machine of the kind specified, the combination with a plurality of pairs of hollow rollers, and means for introducing a heating agent into same, of devices for adjusting the relative positions of said rollers and adapted to remove material adhering thereto.

2. In a machine of the kind specified, the combination with a hopper adapted to receive material, of a plurality of pairs of rollers mounted below the delivery end of said hopper and adapted to receive said material consecutively between the same and finely divide it, means for adjusting the position of said rollers of each pair relatively to each other, pivoted scrapers held normally in engagement with the surface of each of said rollers and adapted to remove material adhering thereto, and means for introducing a heating agent into each of said rollers.

3. In a machine of the kind specified, the combination with a hopper, of parallel rollers interposed in the delivery end of same and adapted to withdraw the contents of the hopper and finely divide same, means for introducing a heating agent into said rollers, devices for removing the heated materials from said rollers, and devices adapted to receive said heated material and knead and cool the same, comprising parallel rollers between which said heated material is passed, said last-named rollers being heated to a less temperature than said first named.

4. In a machine of the kind specified, the combination with a plurality of pairs of rollers, and means for introducing a heating agent thereto, of a plurality of pairs of rollers interposed below said first-named rollers and adapted to receive and cool the material heated by the first rollers.

5. In a machine of the kind specified, the combination with a plurality of pairs of rollers, and means for introducing a heating agent thereto, of a plurality of pairs of rollers interposed below said first-named rollers and adapted to receive and cool the material heated by the first rollers, and scrapers bearing upon said rollers and adapted to remove material adhering thereto.

6. In a machine of the kind specified, the combination with devices for finely dividing and heating material, and devices for removing the heated material therefrom, of devices adapted to receive said heated material and further finely divide and cool the same, and devices for cutting said finely-divided material into chips and delivering same.

7. In a machine of the kind specified, the combination with a receptacle, devices for finely dividing and boiling the contents thereof, and devices for kneading, congealing and finishing the boiled material, of scrapers engaging said boiling and finishing devices for removing material adhering to said devices and delivering same to succeeding devices, including finishing-rolls, and devices for finally cutting said material into chips and delivering same from said machine, comprising a serrated scraper and an unbroken scraper behind the same, both engaging the final finishing-rolls.

8. In a machine of the kind specified, the combination with parallel heated rolls adapted to receive, press into a film and boil soap, of a plurality of pairs of parallel heated rolls each adapted to have a successively lower temperature than said first pair, adapted to receive the boiled film, reduce the thickness thereof and partially congeal same, and a pair of rolls below said lowermost heated rolls for finally congealing said film.

9. In a machine of the kind specified, the combination with parallel heated rolls adapted to receive, press into a film and boil soap, of a plurality of pairs of parallel heated rolls each adapted to have a successively lower temperature than said first pair, adapted to receive the boiled film, reduce the thickness thereof and partially congeal same, a pair of rolls below said lowermost heated rolls for finally congealing and finishing said film, and rolls parallel with said last-named rolls and provided with an adhesive surface for taking said film therefrom.

10. In a machine of the kind specified, the combination with parallel heated rolls adapted to receive, press into a film and boil soap, of a plurality of pairs

of parallel heated rolls each adapted to have a successively lower temperature than said first pair, adapted to receive the boiled film, reduce the thickness thereof and partially congeal same, a pair of rolls below said olwermost heated rolls for finally congealing and finishing said film, rolls parallel with said last-named rolls and provided with an adhesive surface for taking said film therefrom, and scrapers engaging said adhesive rolls for removing said film and cutting said film and cutting same into ehips.

Newly Patented Soap.

Be it known that I, Belle L. Johnson, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and state of Ohio, have invented certain new and useful improvements in soap and the method of making the same, of which the following is a speeifieation.

The object of my invention is to provide a soap which will not only have exceptional cleansing qualities, but will make fast instead of dissipating the colors in eolored washable fabrics; and my invention consists in the soap and the method of making the same hereinafter described and claimed.

My improved soap is composed of coagulated turpentine and pure white soap, consisting, preferably, of from twent-five to thirty-five parts of oil or spirits of turpentine and sixty-five to seventy-five parts of pure white soap, sufficient water being used to reduce the soap to a semifluid state. The eoagulated turpentine is prepared by heating turpentine until incipient boiling sets in, then adding finely-divided white soap until when tested by cooling a gum-like transparent mass is produced. This will require approximately one part of soap to fifteen parts of turpentine. The white soap is prepared by stirring together finely-divided white soap and boiling water, preferably in the proportion of four parts of soap to one part of water. This should produce a semifluid sticky mass. The ingredients thus prepared are then mixed, stirred thoroughly, and poured into molds.

It is obvious that limited quantities of other nondeleterious ingredients may be added for scenting, coloring, &c., without departing from the spirit of my invention.

I claim as my invention—

1. The herein-described method of making soap, consisting in heating oil or spirits of turpentine until incipient boiling sets in, mixing the heated turpentine with a small quantity of white soap, reducing a quantity of white soap to a semifluid mass, and mixing the prepared turpentine and the prepared soap, substantially as and for the purpose speeified.

2. The herein-described compound, consisting of oil or spirits of turpentine and white soap in substantially the proportion of three parts of turpentine to seven parts of soap, as and for the purpose specified.

"If it hadn't been for my drawings," said a young artist to a prominent manufaeturer, "your soap would never have been heard of."

"That's all very true," said the manufaeturer, "but if it hadn't been for my soap, your pietures would never have been published."

Linings of Fats.

In the preparation of linings for vats which are to contain waters charged with sulphuric acid, Portland cement, called slow-setting eement, is employed preferably in consequence of its hardness. Whatever may be the brands made use of, the cement in a short time is eaten by acid waters, and leaves bare the walls which it was designed to protect. A similar fact occurs in washing vats containing solutions of potash and soda.

If, instead of Portland cement, vassy eement of rapid setting, is employed, the result will be quite different. The latter resists for a long time the aeid waters, even when eoncentrated, and waters strongly alkaline, but on the condition that it is applied pure, without mixture of sand or gravel in the eonstruetion of the mortar.

It is sufficient, after the walls to be eovered have reeeived a first coat of the cement, to cover the whole with another coat, about a centimetre thick, of pure vassy cement, tempered simply with sufficient water to obtain a substance neither too firm nor too liquid and to apply it quickly on account of the rapid setting of the eement. The different applications fuse into each other very well after the inevitable stops, by working down the edges and moistening them before eontinuing with the new mortar, as is also practieed with all eoatings of cement.

It is essential to employ for tempering the cement, either of rapid or of slow setting, very pure water. Often defeets are produced, resulting only from the employment of impure water, when the cause is sought for elsewhere.

The vassy cement, which is superior to the portland cement as a protection against acid and alkaline waters, is much inferior when exposed to fatty substances. Oil of any kind softens and reduces it to a pulp, rendering it unsuitable as a protection for oil reservoirs, while the Portland cement resists indefinitely and preserves its hardness and impermeability in presence of fatty bodies, as with ordinary water.—"La Revue des Produits Chimiques."

AMONG THE SOAP FACTORIES.

No. 3—Lever Brothers, Limited, Boston Works.



Lever Brothers, Limited, Boston Works.

Referring to the factory of Lever Brothers, Limited, at Cambridgeport, Massachusetts, it seems impossible to do otherwise than preface our remarks by a few words regarding the parent establishment in England. From time to time the celebrated soap works at Port Sunlight have been spoken of in this paper, and we can only be very brief on that subject at this time.

The village of Port Sunlight is inhabited entirely by those connected with the operations of the great soap works of Lever Brothers, Limited, and contains about 600 houses, including buildings used for soap manufacturing and oil milling, as well as enormous printing and box-making departments, buildings for educational, religious and social purposes.

These gigantic soap works—the largest in the world—give employment to about 3,000 people, representing



Alfred J. Wolfendale, President.



Edwin D. Mellen, Treasurer.

60 different trades and oecupations. The entire plant is equipped with eleetrieal power almost throughout, produeed by the help of two huge Corliss engines of 1,200 H. P. eapaeity. The fly wheel of these engines weighs no less than 35 tons. There are also 108 immense iron kettles, eaeh with a capacity of 60 tons of soap, and numberless other equipments on the same seale. But, as it is not of the English soap works we intend to speak, we will merely quote as another illustration that 40 cylinder presses for printing are part of the equipment of this huge plant.

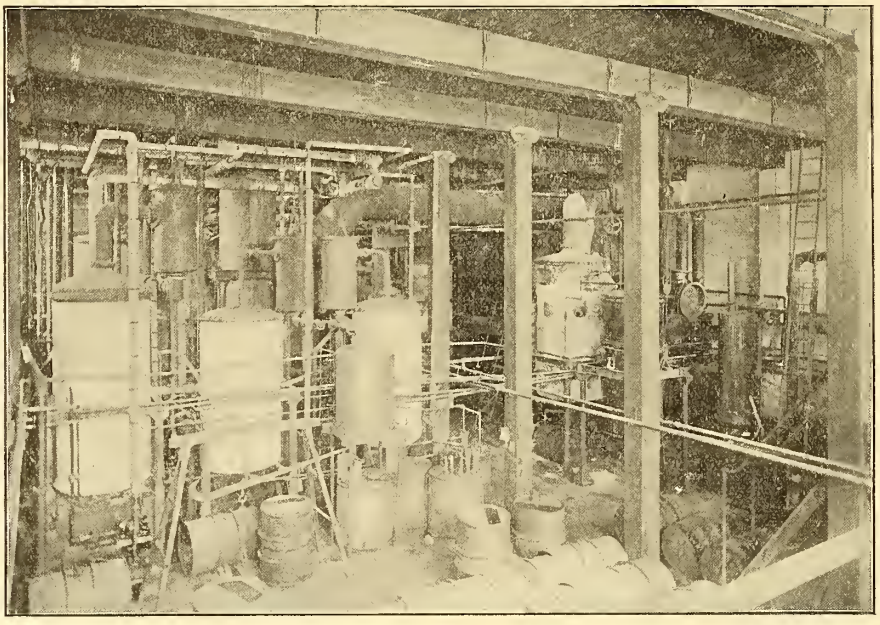
Assoeiated with this parent eompany are a number of braneh establishments, gradually organized in different parts of the world by the same firm. They are as follows:

Cotton Seed Oil Mill in Vieksburg, Mississippi; Cocoanut Oil Mills and Soap Works in Sydney, Australia; Soap Works at Toronto, Canada; at Mannheim, Germany; at Olten, Switzerland; at Philadelphia, Penn., and Cambridgeport, Mass. In addition, works have been projeeted also for Brussels, Belgium; Rotterdam, Holland, and Capetown, South Afriea. Under these eircumstanees it is small wonder that soap from one point or the other of Lever Brothers, Limited, is found in all parts of the world. It is, however, little short of marvelous to think that as reeently as 1888 the parent plant at Port Sunlight was itself not yet in existenee even.

Coming now to our real subjeet—Cambridgeport Works—we find that it is the sueeessor of the old firm of Curtis, Davis & Co., whose plant and business was purchased by Lever Brothers, Limited in 1898.

Mr. Curtis Davis founded the works in 1835, and three years later took in a partner under the firm name of Davis & Dickinson, whieh at that time (1838) had a joint eapital of $1,000. But the business prospered, and in 1851 Mr. Davis bought out not only the whole business, but also aequired the real estate still oeeupied by the present sueeessors, and whieh, with a few reeent additions, eomprises an entire city block.

In 1864, Mr. James Mellen, son-in-law of Mr. Davis, was taken into partnership, and the firm then beeame Curtis, Davis & Co., and remained so until reeently. At that time the daily eapaeity of the works was about three tons of soap. The reputation of the firm was first made with the produetion of the brand, "Ameriean Peerless," the now well-known popular brand of "Weleome" not eoming upon the market until 1874. In 1877 the founder of the house, Mr. Curtis Davis, died. Mr. James Mellen then took his son, Edwin D. Mellen, into partnership, the firm name still remaining unehanged, however. As the years went on the works were extended from time to time, new departments, sueh as Glyeerine Works, Laboratory, Maehinery Shops, ete., being added.



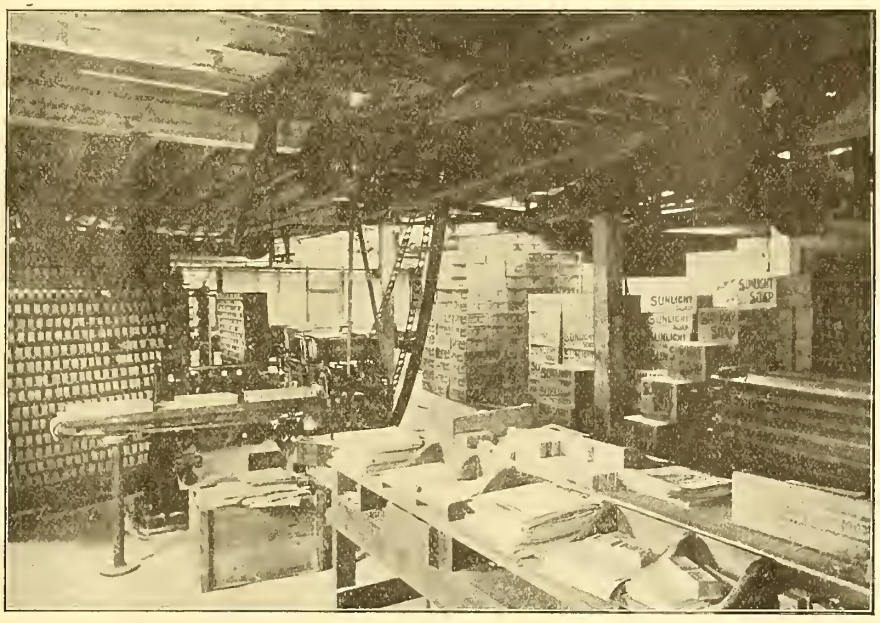
Glycerine Works—Lever Brothers, Ltd. Boston Works.

The output of the Cambridgeport Works in 1896 was valued at $600,000, sinee which time, however, large additions have been made and the capaeity of the plant greatly inereased. Further additions are at present in progress to the soap works building.

Lever Brothers, Limited, Boston Works still continue to manufacture the old standard brands—"Welcome," " American Peerless," etc., to which have been added the already well-known "Sunlight," "Lifebuoy" (Disinfectant), "Monkey Brand" (Scouring), and "Swan" (Floating).

tities of this article are sold for use in the manufacture of dynamite, so essential in mining operations in this country and elsewhere.

The Chemical Laboratory also plays a very important part in the business. Here all raw materials are carefully tested to see that no impure or noxious matter

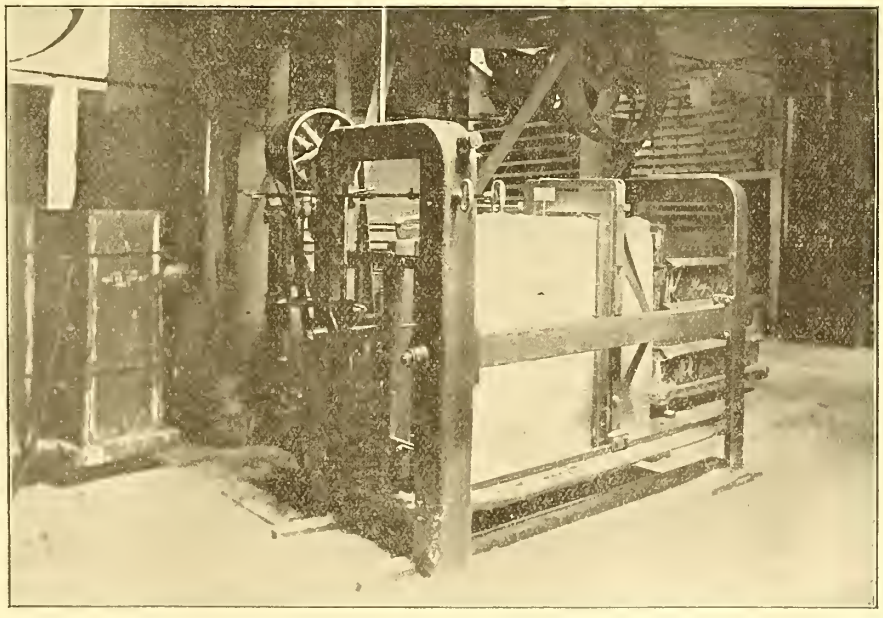


Presses—Lever Brothers, Ltd., Boston Works.

One of the most important features of the business today is the manufacture of glycerine. This valuable by-product in early years was neglected by all soap manufacturers, as our readers know, but is now of itself an industry of very great importance. Immense quan-

finds its way into the various products. The soaps themselves are tested in the several stages of manufacture, and thus insure the maintenance of the highest possible standard of quality.

The machinery department connected with the works



Slabbing Machine—Lever Brothers, Ltd., Boston Works.

is not only intended for necessary repairs, but also builds a number of special machines used in soap manufacturing. These are of their own invention, and are found in many soap factories the world over.

It is doubtful if any boiler plant has heretofore been erected in New England where every item coming to reduce the cost of steam has been so thoroughly considered and so practically met, as at these works.

Each of the four huge boilers, of a combined capacity of 600 H. P., is equipped with mechanical stokers, the action of which gives a strictly smokeless furnace, and which, together with many other labor-saving devices, reduces the duties of firemen to watchfulness and supervision only. So complete in every detail is this modern power station that one man constitutes the force of firemen and runs the entire plant.

This great and rapidly increasing business occupies the entire block bounded by Broadway, Portland, Burleigh and Harvard streets, Cambridgeport, Mass., and its history serves as a striking example that where enterprise, energy and perseverance is united with an honest product, success must follow.

Stearin, Paraffin and Ceresin In Toilet Soap.

A writer in the Seifensieder Zeitung (German) says that cold-made soaps may be given a greater resemblance to the milled article by the aid of the three materials named, i. e., stearin, paraffin and ceresin.

Paraffin—white and yellowish—is low in price; refined earth wax (ozokerite) or ceresin and stearin are also obtainable. When perfectly white soaps are not to be made, the lower grades of these materials can even be utilized. For making a cold soap that shall, in use and in appearance, resemble milled soap, the writer first prepares the following composition: Stearin (stearic acid) 4 lbs., ceresin 6 lbs., paraffin 20 lbs. (melting point about 110°F.)

This is best done in a jacket kettle, first melting the stearin, then adding the wax and finally the paraffin. Burning of any of the materials would impair the odor of the soap. The melting should be done at the lowest possible temperature and crutching continued till the mass is quite uniform. Of this composition 2 to 10 per cent. are used in the stock.

The following illustration is then given:

Cochin oil	80 lbs.
Composition	4 lbs.
38° soda lye	42 lbs.

The composition described is melted in a jacket kettle holding at least four times the quantities named above; heat to 130° F.; run some of the cocoanut oil at (85° F.) into the kettle in small portions while crutching and see that it at no time crystallizes out; if it does, the entire mass must be warmed till entirely clear and only then is more cocoanut oil run in until about three to four times the amount of oil has been used. When all is evenly mixed the whole mass is added to the stock in the crutcher and the stock is then crutched until it is cooled down to 85° F. when the color (previously dissolved in boiling water) is added and then the lye. When the soap is well formed and framed, it is covered to favor spontaneous heating as much as possible. The perfume is added after the lye.

The more of the composition is used, the more does the soap resemble milled soaps.

The following perfumes are recommended among others by the same writer:

1) Oils Sassafras 30, Anise 10, Cassia 15, Clove 10, Citronella 100. 2) Oils Verbena 20, Citronella 80, Palmarosa 50, Clove 30. 3) Oils Bergamot 40, Lavender 30, Geranium (afr.) 20, Palmarosa 40. 4) Artif. Musk ½, Terpineol 20, oils Lavender 40, Cedarwood 20, Bergamot 30.

The Art of Sampling Rosins.

One of the most remunerative callings in Savannah is that of naval stores inspecting. There are few men who are so well paid for their labor as the men who gauge spirits turpentine and grade rosins. There may be no great fortune in the work, but those engaged in it manage to get along pretty well, and the wolf does not linger about their doorsteps and cast hungry looks through the window. The calling is a fascinating one, and those engaged in the work seem to have a pleasing way of making a comfortable living.

It is not every one who can inspect naval stores. It requires special ability in that direction and some experience. Those who are in the business now have for the most part been engaged in it for some time and they have the work down to a fine point of excellence. With the important position occupied by Savannah as a naval stores center a description of the work of the inspectors and the method employed to arrive at the proper grade of thousands of barrels of rosin and the correct gauge is interesting.

The grading of rosin is an interesting process. The ganging of spirits is not so picturesque. In this work the government methods of gauging liquids is used, and that is all there is to it. With rosins it is different.

From the time a barrel of rosin is placed upon the wharf until it goes aboard ship to be exported it passes through many hands but more depends upon the man who declares what it shall grade than any one else.

The inspector goes in among, say, 1,500 or 1,800 barrels of rosin, scattered over a wide territory on a wharf. To inspect 1,800 barrels a day is considered

fair work, but some inspectors have passed 2,600 in one day's time. That, however, is the exception.

With the inspector go two or three gangs of men and young boys. There is one gang to "uncooper" or unhead the barrels. When this is done a piece of rosin at least six inches square is cut from the contents of the barrel. This is handed to the young man who cuts out the samples. This is where the fine art of rosin sampling comes in. This sample cutter is an artist. He uses a sharp adz; and, taking the large piece of rosin of irregular shape in his left hand, he taps it gently, with the sharp blade of the adz. This is done on four sides and soon the rosin block begins to take shape. The chipping away of the rosin is kept up until a perfectly square block just a little short of an inch is produced.

This is the rosin sample that is to be passed upon by the inspector. Hundreds of them can be cut with great rapidity and when they are laid out together there will not be a difference of a sixteenth of an inch in their size. The sample is placed on the side of the barrel and the inspector comes by. Here is where his keen eye and his good judgment comes into play. He carries with him a complete set of samples of the various grades of rosin. There are thirteen of them. The palest rosins are the most valuable, and, as they get darker in hue, they become less valuable. The newly cut sample is held to the light beside the sample and the inspector calls out the grade. It is put on record by an assistant and the inspector passes on to the next barrel from which a large piece of rosin has been cut and the sample made from it. He grades this and goes on to another barrel. This is kept up until every barrel has been opened and sampled.

Behind the inspector comes a man who coopers up the barrels of graded rosin and another man weighs them and marks the weight on the side of the barrels.

A record of the inspections is kept and this record goes to the factor.

This inspector is paid 6c a barrel for inspecting the rosin by the factor by whom he is employed. The railroad upon whose wharf the rosin is placed pays a quarter of a cent a barrel for the inspection. This makes the total cost of the inspection 6¼c a barrel. The inspector has to pay all his helpers, and this amounts to a good deal. One inspector says his expenses amount to from $600 to $700 per month, while there are others who even pay out more than that.

The inspector, after being elected to his office by council, has to make arrangements with the factors for employment. The work is divided about equal among the several inspectors. Some of them work for one firm alone, while others are employed by two or three factors.

While the factor pays the inspector for the work that is done he charges the producer with the cost of inspection and the man who ships the spirits or rosin has finally to pay for having it gauged or inspected at the port.

The rosin samples are brought from New York to Savannah. These are the original types by which all the inspections must be gauged. They cost $2.40 a set and the sets have to be renewed about once each year. They formerly cost $5 a set, but the price has been reduced. The types are manufactured by Hiram F. Smith & Son, of New York, and those in use in Savannah are approved by Beling, Niemeyer & Wessels, supervising inspectors, whose reliability is recognized all over the world.

After reaching Savannah they are approved by the inspecting committee of the Savannah Board of Trade and they can be used for grading the rosin sent here to be inspected and sold.

After being elected by council a naval stores inspector has to give a bond of $2,000 that he will conscientiously perform his duties.—Savannah Press.

Fixing Agents In Perfumes.

Every one familiar with the compounding of perfumes knows that where a given odorous substance is very volatile something less volatile is mixed with it, to "fix" it as it is commonly said. This may delay the evaporation of the more volatile; at all events, something odorous remains, and the perfume has the credit of permanence. In a paper on "Colognes and Toilet Waters," presented by Prof. Scoville at the Philadelphia meeting of the American Pharmaceutical Association, the author discusses especially the use of fixatives. He says: "The secret of perfumery lies mainly in the choice of the fixing agents—i. e., those bodies which intensify and hold the floral odors. The agents formerly employed were musk, civet and ambergris, all having a heavy and dull animal odor, which is the direct antithesis of a floral fragrance. A free use of these bodies must inevitably mean a perfume which requires a label to tell what it is intended for, to say nothing of what it is. Such was the perfume of a dozen years ago. To-day there is no evidence that the last of these (ambergris) is being used at all in the newer perfumes, and the other two are employed very sparingly if at all. The result is that the newer perfumes possess a fragrance and a fidelity to the flowers that they imitate which is far superior to the older perfumes. Yet the newer perfume is quite as prominent and lasting as the old, while it is more pleasing. It contains the synthetic odors, with balsams or resinous bodies as fixatives, and employs musk and civet only in the most sparing manner in some of the more sensitive odors." As a fixing agent the author especially commends benzoin. Only the best variety, he

says, should be used, the Siam, which costs five or six times as much as the Sumatra. The latter has a coarse pungent odor.

Benzoin has heretofore been used but sparingly, and generally if not always with musk, etc., and we are pleased to hear that it proves serviceable alone, for there is certainly something unpleasant in the idea of the use of musk, ambergris and civet, when one thinks of their source.

The practice of using musk in colognes and toilet waters still widely prevails we are told. This the author thinks a mistake. "A cologne," he says, "should be refreshing and invigorating. It has a positive therapeutic value in slow fevers, after surgical operations, etc., when it possesses these qualities. To the feverish patient, weary with the long lying in bed and tired of the smell of medicines, and in a room which seems stuffy, though it may not be, the application of a little muskless cologne to the face and hands is at once a bath and a change of atmosphere. Antipyretics may be more necessary in acute fevers, but they can never be so invigorating and cheering. But musk is depressing, and its use in cologne in even the minutest quantity will spoil the cologne for such uses. The first effects may be refreshing, but the musk lingers after the lighter odors have disappeared, and a sick person is pretty sure to feel its effects. Persons in vigorous health will not notice the depressing effects of musk, but when lassitude prevails these are very unpleasant. Moreover it is not a necessity in these toilet accessories, either as a blending or as a fixing agent. Its place is better supplied by benzoin for both purposes."

We quite agree with the author in his position as to the nature and service of cologne, but go further as to "fixing." We agree with what we think was the practice of the ancient perfumers, namely to leave all fixing agents out of perfumes intended for free use at the toilet.

Prof. Scoville offers a formula for cologne water which he says closely resembles the popular "Farina" ones. It is as follows:

Oil of bergamot	1½ drs.
Oil of lemon	6 drs.
Oil of neroli	4 drs.
Oil of orange	2 drs.
Oil of rosemary	2 drs.
Tincture of benzoin	1 oz.
Orange flower water	12 ozs.

Alcohol to make 1 gallon.

The tincture of benzoin is to be the same strength as directed in the Pharmacopœia.

As to alcohol, Prof. Scoville thinks a lot of nonsense has been written about the necessity of extreme care in selecting it, "such as certain kinds requiring alcohol made from grapes and others demanding extreme purification, etc. A reasonable attention to a good quality of alcohol, even at a slight increase in cost, will always pay, but, other things being equal, a good quality of oils in a poor quality of alcohol will give far better satisfaction than the opposite combination. The unsophisticated public is not composed of exacting connoisseurs, and it does not appreciate extreme care or expense in either particular. A good grade of pharmaceutical alcohol, reasonably free from heavy and lingering foreign odors, will answer practically all the requirements."

While there is no doubt that the "cologne spirits" of modern times will fill most requirements one must remember that alcohol obtained from grapes is quite different as to its incidental constituents from grain alcohol. These constituents Piesse declared to be needful to produce the finest cologne water, however he probably had no "deodorized" to experiment with in his day.

Prof. Scoville further says:

Distillation of colognes and toilet waters, so often directed, is another delusion. It is true that heat will hasten the blending of the oils and the ripening of the perfume, but it will be far better and easier secured by a gentle digestion than by distillation. In fact, distillation of these, he says, is more likely to work harm than good.—Druggists' Circular.

Reply to "Puzzled."

New York, Nov. 18, 1902.

Editor AMERICAN SOAP JOURNAL—

Dear Sir: In answer to "Puzzled" (Nov. Soap Jrl.) I would say that when a soap is composed of the different oils mentioned, though nicely finished and well settled, it is apt to contain unsaponified stock and an excess of water, causing the rapid drying, darkness and rancidity complained of. The trouble arises from treating the stock too rapidly with lye or with too strong lye or not having sufficient power behind the steam. When lye is run into the stock too fast or too strong, keeping the dry and wet steam turned on, we get a mixture similar to that in the cold process and this is then difficult to bring into a proper condition.

The only remedy in such a condition is to run off the lye from the strengthening change and start to finish without more water being put into the soap, but keeping on open steam for ten minutes. If the soap comes up very close now it is a sign that it contains unsaponified stock. In this case make a special short change from weak lye and finish on same day.

Jos. Doushkess, Soapmaker.

The Men Behind Your Credit.

In extending credit to their large numbers of customers throughout the country every laundry machinery and supply house endeavors to distribute its favors chiefly among those who are entitled to them and will not abuse an confidence reposed in them. In so doing they aim to become more or less familiar with the financial circumstances, business methods and personal ability of everyone asking more than a nominal and temporary accommodation. To do this is necessary for the economical administration of the industry, and every assistance should be given them in the way of information on these points.

Most of the large establishments subscribe to one of the commercial agencies and receive their reports. These are far from correct at many points, but have been built upon years of experience and investigation, and are therefore better than nothing. Traveling men's opinions are of value, but they cannot be relied upon too strongly, since road salesmen are frequently personal friends of ne'er-do-well laundrymen, for which reason their judgment of a business risk is not apt to be unprejudiced. Other sources of information are the opinions of bankers knowing of the personal affairs of the applicant. The most reliable information, however, is that gleaned from personal acquaintance and long experience. Out of this condition has grown the place and power of the credit man in all departments of mercantile life. Of them the individual laundryman may know little or nothing unless, perchance, they meet on opposite sides of a credit proposition.

I have already said that there ought to be the heartiest of co-operation between all parts of the industry. If that principle were always followed, the profit-and-loss account of every manufactory and distributing house would be less burdened with charges that are not liquidated and cannot be explained away. A new man or a new firm in the laundry business should always expect to be asked for a detailed statement of his financial condition. This request being properly explained, it should not be refused or offense taken at its asking. If this is so, the credit man comes naturally to the conclusion that the would-be debtor either is not well disposed, or else that he knows no better. If the former, he will likely be avoided; if the latter, he will simply be held with a short rope, and not infrequently his wishes will not be met on that very account. Meanwhile he wonders why the concern whose advertisement appears in every issue of the trade papers is so little inclined to do business.

Notwithstanding this, however, the wide-awake credit man uses every reasonable effort to meet, know and cultivate his customers. Personal contact often accomplishes wonders, chiefly by enabling him to judge whether a party will be likely to keep his engagements or not. Small circumstances often determine important matters. Especially is this the case in the matter of correspondence. If a customer makes out his order carelessly, writing several separately important items all together, with no show of system about it, the credit man concludes that he keeps his laundry and looks after his business in much the same confused way. If he remits by partial payments, instead of making definite settlements, you are safe in putting him down as loose and uncalculating in his obligations.

Perhaps you have noticed the careful reserve of the credit man, both in person and in his correspondence? Well, he is certainly not the one to entertain and "take care of" customers happening to visit the establishment of which he is a part. He may have many personal friends among these customers, but these, however intimate, must not influence his judgment an iota with reference to their standing at headquarters. He must be able to say "Yes" or "No," and stick to it. The sales' department has no right to talk him out of this notion. Accounts first turned down "for cause," and afterwards O. K.'d, usually prove unsatisfactory. In a great many cases losses result. The credit man is paid to guard this very thing; he is to a manufacturing or distributing concern what a cashier is to a bank.

You may have found out that he knows something about law; in fact, he ought to be familiar with the collection laws and court decisions of all the states to which the business of his office extends. Very often he in this way saves a legal contest. Lawyers are altogether too frequently employed in the work of collections. Yet we all know that in the long run a debtor can be coaxed a longer way than he can be forced. Legal counsel may frequently be taken, but legal action ought to be reserved for extremely urgent cases. In the last analysis, it should be applied only to cases of fraud.

As a credit man, I find the chief causes of trouble with laundrymen to be (1) insufficient capital to begin and keep up with; (2) incomplete mastery of the business in which they are engaged. In fact, the latter includes the former very often, since the competent, judicious man will confine himself to his means, however limited they may be. The going into the laundry business of young men lacking mature judgment—especially when their experience has been wholly in the office—is the most bothersome kind of case to handle from the credit end. Men who go into this business or any other as a life work may become embarrassed at times, but they seldom fail outright. On the contrary, the seed of failure is always with unsound effort.

It frequently happens, too, that there is a vast difference between the intention or the ability of a debtor to

meet his obligations. He may be ever so well disposed and anxious to pay, but simply cannot. In such cases the credit man is hard put, and no mistake; and what he most needs is a full knowledge of the circumstances governing the case. The opposite—no information at all—is more apt to make him too harsh than otherwise. He is usually gifted with that insight (when once in possession of the actual facts) which enables him to judge in advance whether or not his customer will be able to carry out his promises. Loose methods of accounting is another cause of uncertainty from the credit standpoint. You cannot expect a man to succeed who does not know what he owes, or how much is outstanding, or how much (approximately) his complete plant is worth. No man is a safe credit proposition who does not know, in other words, whether he is making or losing money.

Beyond the apparent facts in the case, too, credit men have the faculty of judging quite accurately whether the honest debtor is getting ahead or going behind. If his intentions are labeled good, he is often granted exceeding liberal terms, and even extra favors. But when the customer deliberately sets out and for a considerable time pursues a studied policy to beat his creditor out of his just dues, there is hardly any recourse short of legal proceedings. Such a man too often knows the value of a high commercial rating, and manages to secure it by misstatements artfully made. He may possibly start out by promptly discounting his bills, then for a time he will pay promptly on maturity. Then he will become delinquent and finally allow bills to accumulate. In the meantime he is putting money in the bank and ends by giving the business over into his wife's name. That is what spoils the temper of the credit man; and perhaps you get a taste of it in his next formally polite letter to you—not meant for you, of course, but simply left over from the extra-heavy "drubbing" he felt it necessary to give the other fellow.—*National Laundry Journal.*

The Risk of Loss by Fire.

There is of course always a chance that inflammable things may be accidentally burned. Wise people are careful to guard against such accident as far as practicable, and they are also careful to also avail themselves of the modern method of "distributing the loss" in case of fire; that is to say, "insuring" their effects.

While the risk we have mentioned exists all the year round it is probably increased during winter, by the more general need of fire-making; and even the possibility of such increase should act as a sufficient spur for any who may have so far neglected to insure. In this class one may find beginners who have not fully realized the fact that risk begins with the possession of things that will burn or may be damaged by the burning of other things in proximity to them.

Many a man has been financially ruined by neglecting to insure. His neglect has we imagine been mostly from intending to "carry his own risk"—a foolish proceeding unless one can well afford it—but from waiting to be "fixed up," or to feel better able to "spare" the money required for the premium. Sometimes this neglect may be in the matter of transferring insurance when property is transferred. The purchaser should know and well remember that when he takes over the property any insurance existing on it becomes valueless until it is legally transferred to him.

It is manifest that one should be careful to inquire into the soundness of the company or companies with which he proposes to make an insurance contract. Such companies, like others, have been known to fail; and failure and fire might happen to be coincident and the "insured" would be left to bear his own loss. As drug stocks are more inflammable than most other kinds of merchandise—or at least are so considered by insurance people—their owners are required to pay corespondingly higher premiums. This has lead to experiments with "mutual" companies, which appear cheaper as to all classes of risks; but these experiments may prove costly or even disastrous. Such a company is apt to operate in a limited territory; and an unusual conflagration will cause high assessments or may render the company unable to make good its contracts. A stock company possessed of ample capital usually does business over an extended area and thus minimizes the risk we have mentioned; and the insured having paid a certain required premium is exempt from any further liability, and will receive any sum that may become due him as long as the capital of the company holds out.

In effecting insurance it is well to consider the question of dividing the risk between two or more companies. If both are equally sound to begin with, this may be regarded as an additional safeguard against possible failure at a critical time. If this method is followed the insurer should be careful that the specification of what is insured and where located, be precisely alike in all his policies. This specification should extend to even the parts of the building. For instance, in a case within our knowledge in which the stock and fixtures were described as being contained in a certain room, and in another as in the store room and cellar, a fire ensued, and it thus became manifest that one company was insuring things which another was not. The adjuster of one company calculated its proportion of the loss, which calculation was accepted by the insured; the other company refused to accept the adjustment, claiming that its proportion was made too high; an arbitration was had, and a compromise made by the arbitrators, which caused a loss to the person insured.

In earlier days when one had property of any kind of the value of say $10,000 he could insure for half its

value, and if loss occurred, he was paid for all the loss up to $5,000. But of late years the insurance companies generally insist on a different arrangement in regard to merchandise—one that is calculated to increase their revenue. This is embodied in a "co-insurance clause," which clause provides that to obtain the full benefit of the contract—that is, to be entitled to full pay for the loss—the insurance carried must either be equal to the entire value of the property, or, what is generally customary, to 80 per cent. of such value.

In case of a total loss, this provision becomes inoperative for reasons which will be seen, but in a case of partial loss, where the sum total of insurance does not reach the required amount, the policy-holder will only receive payment for a part of the loss. How this sum is arrived at is shown in an illustration by Ainslee which we have presented on another occasion. Assume that the total value of the property insured is $40,000; then 80 per cent. of its value will be $32,000, which is the amount of insurance that should be carried. Assume that the amount of insurance that is actually placed amounts to only $25,000. This, it will be seen, is $7,000 short of the proper amount. Suppose that a fire occurs, resulting in a loss of $10,000. The insurance being $7,000 short, the $32,000 proper insurance has to pay the $10,000 loss, figuring $312.50 to each $1,000. That is to say, the insurance companies pay on $25,000, which is the amount of their policies, to the extent of $7,812.50, and the merchant, who is a co-insurer on the $7,000 short insurance, pays upon the basis $2,187.50. Thus the merchant receives out of his $10,000 loss the sum of $7,812.50. He is obliged to count as additional loss the $2,187.50 on account of not being insured up to 80 per cent. of the value of his stock.

It is evident from this that one must carefully consider not only the value of his stock at the time of insurance but keep informed as to any increase. It is of course important to be so informed if insured on the old plan; but it is more so under the new, as a comparatively small addition materially reduces the amount that would be realized.

After settling the written portion of the policy of insurance, one must look into its printed "conditions." These are usually, if not always, so numerous that they are printed in rather small type, and the task of reading them understandingly is a somewhat formidable one. But this task should be faithfully accomplished, for it is important to find out exactly what one must not do—under what conditions the policy may become of no effect. Among the restrictions will often if not always be found a prohibition against keeping on the premises cer- inflammable or explosive articles, among which are benzine, benzole, ether and phosporus, "any custom of trade to the contrary." While these are a proper part of a druggists's stock, unless express permission be given in writing on the policy to keep the prohibited articles, there is room for a lawsuit.

We may add that the restriction referred to has a certain archaic complexion, as one of the articles it prohibits is "Greek fire." Now we do not believe that any insurance man now alive, ever saw any Greek fire, unless it might have been in a museum. This might not be worth mentioning were it not for the fact that insurance men so apply the prohibition as to render it as absurd in another way as it is in the matter of "Greek fire."

In the ancient and still used form of policy the "house" in which insured merchandise or other portable property may be, is specified as such; in the "conditions" it is stated that without express permission endorsed thereon the policy will be void if illuminating gas be generated in the described building or adjacent thereto," or if there be "kept, used or allowed on the above described premises," the articles forbidden. It will be noticed that so far as the text shows on its face, this policy makes no provision for the full insurance of the people who are joint tenants of a building with other people; yet the policy is issued to them in exactly the same form as to sole tenants; and according to the face of the contract, the innocent insurer is exposed to the risk of losing his insurance by the act of another over whom he has no control whatever.

Whether a dishonest company has ever escaped payment to the loser under such a policy when that loser had himself strictly observed its conditions we do not know; and if not, the problem of what it might do still remains open. The best time to argue with an insurance company is before you pay a premium, and if insurers generally would insist on the proper modification of this clause there is scarcely a doubt that it would be so modified; that is to say, rendered unquestionable.

The guarantee against loss of property by an insurance company does not lessen the need for vigilance to prevent such loss. Such care is of course an understood part of the contract, and is required to protect neighbors who might be damaged; and on a lower plane of argument to-avoid trouble and loss of business which the insurance company does not undertake to pay for.

To this end the owner of a store should carefully see that all safeguards are provided which experience has suggested or which he may be able to devise. Waste paper and other refuse should not be allowed to accumulate, and specially inflammable articles, like benzin, for instance, should be stored outside the building if kept in more than a very small quantity. Phosporus must be looked after with great care, as the evaporation of the water in summer or the cracking of the bottle by freezing

in winter will expose the drug to the chance of inflaming.

The druggist should bear in mind that in the soda fountain he has a valuable aid in "fighting" fire; and that ammonia water has also proved valuable as an extinguisher. The difficulty of applying carbonated water is met by the "chemical" extinguisher now so common, a contrivance which enables one to promptly apply the water just when and where it is needed.

It is almost needless to add that the value of a well-kept set of books will be especially apparent in case of a loss by fire. To guess at the value of the property when insuring is uncertain; and guessing is manifestly unsatisfactory in a high degree when it comes to determining the amount of a loss.—*Druggists' Circular.*

How To Make Mottled Soap.

It is sometimes well to look a little backward to find good advice for producing certain kinds of goods, especially if in the method or preparation of the product no change has taken place. So it came to pass that in looking through the back numbers of our contemporary, "Die Seifensieder Zeitung," a few notes of advice how to make mottled soap were discovered, which, even if some readers should already be acquainted with them, will be of great value to others. The making of mottled soap is not an easy task; particularly is this so for the younger or less experienced generation of soap-boilers, many of whom undertake the making of this kind of soap only with some misgivings as to the success the venture will meet with. Even otherwise well experienced men have often expressed themselves as doubtful if they could trust their recipes—and many a lot has turned out second rate, in spite of the use of best materials and great attention as to the treatment during the boiling process. This manufacture causes frequently a great deal of anxiety, because the appearance of the soap must be exactly as desired, and even otherwise slight alterations in external appearance are of great danger to mottled soap. The name of the product implies to the purchaser its appearance, and appearance is, like in many other cases, the guide to the judgment as to quality. Many points require special attention, and one of the first needs is to watch the purity and freshness of the fats which are used; but not only the fats must be pure, all the other raw materials and ingredients must be of equally good quality, otherwise a good product cannot be expected, and even the best methods of production and the greatest attention cannot make up for any inferiority of the materials used.

The reason for most of the failures in the making of mottled soap is generally owing to the imperfect saponification, and as long as this cannot be procured or assured, the carbonates and salts must not be added. The recipes for making mottled soaps are numerous, and each soap-boiler believes that his is the best, and none others can be compared. Well, some of that belief may be correct and quite justifiable by results and experience, but it does not prove that every other recipe cannot be equally good, probably even better, and a trial has never done any harm. A few improved recipes are given for consideration, and if tried in the proper way, they will supply the soap-boiler with a yield of 350 pounds.

I.

	Lbs.
Palm oil	138
Tallow	12
Lye (soda) (20 deg. R.)	180
Carbonate potash (33 deg. R.)	75
Salt solution (20 deg. R.)	75
Salt solution (20 deg. R.)	45

II.

	Lbs.
Palm oil	150
Lye (caustic soda) (20 deg. R.)	180
Carbonate of potash (33 deg. R.)	75
Salt solution (24 deg. R.)	75
Chloride of potassium (20 deg. R.)	40

To color this soap, 5 ounces blue, 2 pounds soda-lye (20 deg. R.), 5 pounds 3 ounces of waterglass, and 2 pounds of water are used.

Another recipe, giving 450 pounds instead of 350 pounds per 100 of fat, is the following:

	Lbs.
Palm seed oil	495
Lye (soda) (30 deg. R.)	247
Calcined carbonate of potash (89-96 per cent.)	70
Carbonate of soda	70
Water	400
Salt (24 deg. R.)	495

For 55 pounds of the palm seed oil the equal quantity of tallow can be used. The lye (soda) can be diluted to 17 deg. R. by means of 495 pounds of water. To color this soap, 4 ounces of blue, 1¾ pounds of lye (soda) of 17 deg. R., 4½ pounds of waterglass, and 1¾ pounds of water are used.

If a yellow ground color of the soap is required, 5 per cent. raw and 25 per cent. bleached palm oil are sufficient, and this addition gives the whole a very pleasant smell. In case the ground of mottling need not to be quite white, a little quantity of bone-fat should be added, and this fat has to be placed in the pan first, followed by the lye and then by the potash; only after these substances have been heated to about 200 deg. F. the salt is slowly and gradually crutched in.

It is necessary to make a clear paste of the combined materials, and this can be done in various ways, which

must be left to the individual boiler, since the opinions as to bringing the soap to a boiling point or not are too divergent, and both methods can show good results. The froth has to be removed after the soap has stood for a while, and when this is done a sample of about 40 pounds should be taken, and mixed with a proportionate quantity of the recommended lye materials. Should the soap show little flakes in the pot, and, after half an hour, little furrows on the surface, a good quantity of lye must be added, and, if some of the soap taken on a spatula shows little crystals, not quite so much lye is needed in addition. Should the sample be quite blue after it has stood for half an hour, a few pounds of palm oil should be put into the main mass, and the whole well stirred up, when it remains covered for about half an hour before another sample is taken and dyed in the aforedescribed fashion, until the boiler has got the desired mottling of the soap. The soap can be moulded at a temperature of less than 150 deg. F., and wooden moulds are always preferable to iron ones, as the latter send back more heat into the soap than the wooden walls of moulds do, and the effects of too much after-heating are not desirable. Iron moulds should not hold more than 1,700 pounds, and with wooden moulds the capacity ought not to exceed about 2,200 pounds. When the mould has been covered, the boiler ought to wait half an hour, to see if the mottling has been roughly formed, and when the formation of the marble-like staining is satisfactory, the mould must be covered, and can then remain unattended until the soap has cooled. If this method is followed out, the results will show that it is of exceptional merit.—A. Emmel in *Oils, Colours & Drysalteries.*

Bidding For Easy Money.

One of the numerous chances presented to the young man to drop his money is the course of advertisement writing offered by a number of institutions. It appears from the advertisements of these concerns that the whole business world is almost at a standstill because of the scarcity of ad. writers. By taking a three months' correspondence course at a cost of from $30 to $50, however, any sort of a $6 a week grocery clerk can be made an advertising expert and go forth conquering and to conquer, taking his choice of jobs at from $30 to $80 a week.

Woe be unto the unsuspecting person who, through curiosity, answers one of these ridiculously exaggerated advertisements. He draws upon himself a hurricane of imitation typewritten letters, with his name badly indented in two or three places; reprints of very cheap advice from Success, usually written by some lobster who never earned a dollar in his life; large pictures of Mr. Soandso and Mr. Thisandthat, the owners of and teachers in the "school" or "college," together with inspiring yarns of their success in life and the magnificent salaries they commanded; small pictures of sundry well-meaning easy marks who have "graduated" in advertising and are filling very lucrative positions—not. A week later comes another batch of fuel, in the shape of more pictures of the great advertising geniuses who will teach you; more advice and more badly-faked letters manifesting a deep interest in your welfare and incidently in that fifty you may have saved up. The letter insists on an answer, of course. Failing to receive this, another comes, and then another, and so on. All of these letters are full of cheap platitudes and bombastic advice, couched in very ungrammatical English, and finally insinuate that anyone who fails to answer is just too lazy!

This would be merely funny were it not that some worthy persons who have scraped together a few dollars by dint of hard work and rigid economy are led to believe the fictions about salaries of from $30 to $150 a week being immediately available, and so pay $40 or $50 or even more for such instruction as they could get out of any of the better advertising journals at the cost of a few dollars. Now and then a letter reaches this office wherein the writer avows his readiness to assume entire charge of our advertising, and overawes us with the statement that he has taken the ——— course in advertising; but from the chirography and other external and internal characteristics of such letters we fear that another good plough-hand has been spoiled—and despoiled!

The New Idea's advice to anyone thinking of taking a correspondence course in adwriting coincides with that once given by Punch on a certain momentous question —Don't!—*The New Idea.*

Imitation Poudre De Riz.

R. Aso, not being assured that a sample of face powder labeled "poudre de riz" (rice powder) was what it claimed to be, submitted it to examination. To his surprise, he found that on burning it he had over 53 per cent. of ash left. On treating it further he obtained about 40 per cent. of starch, the remainder being talcum. This led him to examine several other powders, two of which were of German (Berlin) and the remainder of French origin, all bought in the open market, and found not one of them to be what it claimed, all carrying a heavy percentage, from 32 to 54 per cent. of talcum, and 3 per cent. to 4 per cent. of zinc oxide. The best, a Paris preparation, contained 64 per cent. of starch, 23 of talc and 3.74 of zinc oxide.

QUESTIONS AND ANSWERS.

In this column we shall print questions of general interest submitted by subscribers and invite replies to the same from our readers, which will be printed in the next issue of this paper.

QUESTIONS.

[When expressly desired, we shall print questions without the initials of the enquirer, but under no circumstances shall we pay any attention whatever to questions from parties unknown to us.]

Question No. 34. Should like greatly to learn what are the usual weekly wages of an efficient soap boiler in the United States.—A. G.

ANSWERS.

To Question No. 33: This question might be answered as Mr. Longfelder answered Mr. Patterson's interogatory (see Soap Journal page 78.) There are so very many things to be taken in consideration, and so many things we would have to know in addition to data given by "Puzzled," that a satisfactory answer is next to impossible.—M.

ANSWERS IN BRIEF.

E. B.: According to information received during last month there are in use in this country thirteen of these machines (instead of four or five as stated) and orders for four more are reported awaiting delivery. If we had said that they are used "in five or six factories" it would have been more nearly correct.

L. G.: We are willing to oblige to the full extent of our ability, but two pages full of questions can be written in fifteen minutes that will baffle the combined energies of a dozen strong men to answer in a month. We have to give it up.

F. I.: Don't mention it.

T. R. Co.: The address is: 582 Calzada del Cerro Havana, Cuba.

PATENTS AND TRADE-MARKS.

The following list of recent Patents and Trade-Marks is reported by W. G. HENDERSON, Solicitor of American and Foreign Patents and Trade-Marks, Norris Bldg,, Washington, D. C. A copy of any of the following will be furnished by him for 15 cents.

PATENTS.

711,492—Soap boiling and fininshing machine. Louis Gottschalk, assignor to Brownie Soap Company, Chicago, Ill.

711,493—Soap-plotting machine. Louis Gottschalk assignor to Brownie Soap Company, Chicago Ill.

711,872—Soap-saver. Philippe Leoni, Paris, France.

711,923—Bluing device. Ellis C. Fales, Foxboro, Mass.

712,065—Starching-machine. Edward B. Heinold, Anderson, Ind.

712,069—Soap and making same. Belle L. Johnson, Cincinnati, O.

TRADE-MARKS.

39,132—Shaving-soap. The J. B. Williams Company, Glastonburg, Conn. The words and character "Quick & Easy."

PRINTS.

574—Title: "Palmolive." For soap. The Gray Lithograph Co., New York, N. Y.

AROUND THE SOAP FACTORIES.

News-items sent us by our readers will find prompt attention in this column

W. D. Tidwell, for fifteen years prominent in the wholesale grocery business in Atlanta, Ga., has been elected General Manager of the Georgia Soap Co. of the same city. The officers of the company are John Oliver, president; Edward O. Miles, secretary; W. D. Tidwell, treasurer and general manager.

The Universal Soap Co. of Pierre, S. D., has been incorporated by J. H. Crowell, F. Schoenfield and T. Estes. Capital, $1,000,000. They have also secured a license to transact business in Illinois with a capital stock of $2,500.

Arnold Metcalf's soap factory at Rochester, N. Y., was the scene of a lively blaze on Nov. 12. According to newspaper reports the fire was due to a kettle of soap boiling over an open fire (?)

N. A. Baker, W. Keady and E. F. Spaulding have incorporated the Portland Toilet Soap Co. of Portland, Oregon. Capital $50,000.

Fels & Co. of Philadelphia have let the contract for placing another story, 73 by 73 feet, on their soap factory.

The Fiji Islands boast one soap factory, with a daily capacity of 1,500 lbs.

Harris Lifschitz, who was managing the Tropical Soap & Candle Mfg. Co. of St. Marc, Haiti, writes that owing to the recent revolution he has removed to Port au Prince. We do not know at this moment whether this means that the revolution has landed him at the top or not; if not, the next revolution at least must necessarily bring him to the top. At all events he has our best wishes.

E. Moulie has sent us some press clippings and also some telling cartoons of his own making, bearing on the naval stores' economy and the old French process of rosin and turpentine making. He is as active in urging the best interests of Florida, as he is energetic in

claiming for France the honor due it on the point of priority of invention. May his efforts prevail in both directons.

The Gilmore Soap Mfg. Co., Lewiston, Me., has increased its capital from $50,000 to $500,000.

The Larkin Soap Co. has purchased a 175 foot front addition to its property in Buffalo, for storage purposes.

The Red Cross Soap Works, Knoxville, Tenn., recently sold to E. Bancroft of that city, will be enlarged by him. The former owner was J. H. Bell, who will continue to manage it.

Amanda Verret, wife of Eugene Joseph Blouin, of Quebec, declares that she intends carrying on business as manufacturer of soap and caustics, under the firm name of "Eugene J. Blouin & Cie," that no other person is associated with her and that she is separated as to property from her husband.

The Albany (N. Y.) Rendering Co., which recently purchased the establishments of three tallow collectors of that city, intends to erect a large and modern, complete rendering plant.

The Beaumont Soap Co. of Mayfield, Ky., has increased its capital stock from $50,000 to $75,000.

A real estate firm at Peekskill, N. Y., claims to have made arrangements with a large soap factory to move there and erect a large plant. This item apparently refers to the Medicura Soap Co., of Jersey City.

O. B. Ellis & Co., of Hespeler, Ont., are putting up a soap factory in that place.

The Georgia Chemical & Cresote Co. has been organized at Eastman, Ga., with a capital stock of $25,000 to manufacture soap, oils, etc. Incorporators: T. A. Herman, J. D. Herman, J. Bishop, W. C. Douglass.

Plans have been filed for a three story addition, 54 by 22 feet, and a one story brick engine and boiler house, 24.4 by 63.10 feet, at the soap manufacturing plant of Charles W. Young & Co., in the rear of 1255 to 1259 North Twenty-sixth street, Philadelphia, Pa.

It is with sincere regret that we learn of the death of John C. Shelton, of the firm of Fairchilds & Shelton, soap manufacturers at Bridgeport, Conn. Deceased was born fifty years ago in Huntington, Conn., was a member of the Board of Education and had also served on the Common Council. The death occured at his home without much preliminary warning, and is all the more keenly felt for that reason by his many friends.

Little Rock, Ark., is being investigated by parties intending to start a soap factory there, if conditions seem favorable. There is no soap factory in Arkansas at present, although there is a plentiful supply of cotton oil on the spot, at least.

The ConnecticutFat Rendering and Fertilizer Co., New Haven, Conn., capital $10,000, has been incorporated by E. B. Squires, J. A. Pilgard and others.

Hiram Y. Hirst, manager of the soap department of the Camden & Philadelphia Soap Co., died suddenly of heart disease, at the age of 52 years, last month. Five brothers interested in the same company survive him.

The Willis H. Lowe Co., has been incorporated in Boston with a capital of $100,000 to manufacture perfumery specialties.

Fire on Nov. 16 totally destroyed the Sioux City, Iowa, plant of Armour & Co., covering three and one-half acres of ground. The loss is estimated at almost a million dollars.

The directors of A. and F. Pears, Limited, report for the year ended June 30th, 1902, a net profit of £48,528; deducting debenture interest and interim dividends, a balance remains from which the directors recommend the payment of a dividend at the rate of 6 per cent. on preferred and 12 per cent. on ordinary shares. The increasing prices of raw material has prevented a still better result.

There are some soap factories that manage to be heard from in the local newspapers quite frequently; if that be a merit then a very large gold medal ought to be awarded the Packer Tar Soap Co. With every brick put into the walls of their new building there went a reading notice in the papers of several Connecticut towns. We have been successsively informed by these papers that a brick addition was contemplated, then that it was likely, next that it was decided on, then that the location would likely be so and so, then that the location was definitely determined on, then that the contract would soon be let, then that it was let, then that the excavation was begun and the brick ordered, then that the brick had arrived, then that the brick laying had commenced; now we read that the brick walls are completed and that, the roof being nearly ready for the slaters, the latter are expected to arrive this week. One paper adds: "It is now re-

ported on what appears to be good authority that the company will erect another building nearby during the coming spring." We had really become quite anxious ourselves by this time that the building would soon be finished, but the prospect of another building looming up in the distance causes us to look with fear into the future.

The Florida Cotton Oil Co., is erecting at Jacksonville, Fla., a new oil refinery and soap works. Organized under the laws of Tennessee, with a capital stock of $200,000, the company already owns a large oil mill at Tallahassee, Fla.

The officers of the company are: G. N. Henson, president, Chattanooga, Tenn., who is likewise president of the Citizens' Bank & Trust Co., Chattanooga, Tenn.; W. F. Hutcheson, vice-president, Chattanooga, Tenn. Mr. Hutcheson is president of the Mountain City Mill Co. and is extensively interested in other industrial enterprises.

The manager at Jacksonville is Mr. J. J. Logan. The company has its own tank cars, and will be prepared not only to refine its own oil, but to buy oil in the South Atlantic States.

The general headquarters and sales department of the company are at Chattanooga, Tenn.

Harry J. Freeman of Portsmouth, N. H., has sold the bone and tallow portion of his soap business to the Portsmouth Tallow company. Mr. Freman still continues his soap manufacturing plant.

H. Wm. Dopp & Sons of Buffalo, N. Y., we regret to learn, have had a receiver appointed to conduct their business until, by order of the court, the plant, stock and assets (except book accounts and bills receivable) can be sold. Sealed bids will be received by the receiver (E. C. McDougal) at 236 Main St., Buffalo, N. Y., up to twelve o'clock noon on December 9th, 1902.

The Business Men's Association of Auburn, N. Y., is reported as being interested in furthering plans for a soap factory being erected in that city.

A boiler explosion occuring at Swift & Co.'s Chicago plant on Nov. 29 wrecked the entire kettle house and killed thirteen men on the spot, injuring a still larger number. The immediate cause of the disaster has not as yet been determined. Surrounding buildings were more or less injured and the pecuniary loss is estimated at $50,000.

The office of W. & H. Walker Soap Co. at Pittsburgh Pa., or rather on Herr's Island, was entered by burglars on Nov. 9 and two of the four safes in the office were opened by dynamite and $600 stolen. The damage done to the building is said to be ten times as much as the amount stolen. It seemed a little odd to us that it should take four large safes to keep the small change of one office over night, but we learn that one safe each is used for the soap, candle, fertilizer and the oleomargarine departments respectively. Which of these departments were the losers we have not heard, but we can't help wishing that it was not the soap and candle safes that were robbed.

A. d'Estampes has gone to Havana, Cuba, to engage in soap manufacturing there.

The Markets.

TALLOW.—New York City in hhds. offered at 6 to 6⅛c; in tierces 6½ to 6⅝c; market is rather quiet and buyers inclined to hold off; Chicago sales reported at 6¾c for prime packers and 6¼c for city rendered.

GREASE.—Markets chiefly nominal. "A" white, 7¼ to 7½c; "B" white, 6½c; bone and house, 5½ to 5¾c; yellow, 5¼ to 5½c.

COTTONSEED OIL.—Last sales at New York at 37c for prime yellow; good off yellow 35 to 36c.

CORN OIL.—5¼c; demand still quiet.

COCOANUT OIL—Ceylon held at 6¾ to 7c spot; 6¼ to 6½c asked for stock to arrive in January; Cochin, 8 to 8¼c asked for limited supply of spot, and 7½ to 7¾c for goods under way.

OLIVE FOOTS.—6 to 6¼c for spot; as to quality; 6⅛c asked for goods under way.

PALM OIL.—5½ to 5⅝c for prime red oil; 6 to 6¼c for Lagos as to grade.

RED OIL—6¼ to 6½c asked for Saponified; with moderate demand only.

ABOUT

KANSAS CITY

TALLOW AND GREASES

wire or write

J. F. MOSSER & CO.

218 La Salle Street,

CHICAGO, ILL.

U. JAN12 1903 S

The American Soap Journal & Manufacturing Chemist.

A MONTHLY JOURNAL OF THE MANUFACTURING CHEMICAL INDUSTRIES.

DR. HENRY GATHMANN, Publisher.
2707 North Ave , Milwaukee.

MILWAUKEE, WIS., January 1, 1903.

VOL. XIII. No. 5.

THE AMERICAN SOAP JOURNAL AND MANUFACTURING CHEMIST.

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OFFICE OF PUBLICATION:

2707 NORTH AVENUE, MILWAUKEE, WIS., U. S. A.

The AMERICAN SOAP JOURNAL AND MANUFACTURING CHEMIST is devoted to the interests of all manufacturing industries of a chemical character, and is an absolutely independent publication. It is the only newspaper of its kind in America and has also a large foreign circulation.

For Subscription and Advertising rates see above.

Communications on industrial subjects, news items, and any information suitable for printing in these columns, are solicited and will have due attention.

Readers in search of machinery, supplies etc., not advertised in these columns, are invited to write us and we shall endeavor to supply the information.

Address all communications to

DR. HENRY GATHMANN, Publisher,
2707 NORTH AVENUE,
MILWAUKEE, WIS., U. S. A.

A Merry Christmas we hope you have all had; a Happy and Prosperous year for 1903 we wish all our readers most earnestly and sincerely.

The next annual convention of the National Laundrymen's Association is to take place in Milwaukee. The National Laundry Journal says that "as a convention city Milwaukee is equal to any in the country."

No. Bro. Dowst; you will find that as a convention city Milwaukee is *superior* to any in the country. It is not by accident that this city is hardly ever without some convention or other.

A recent contribution of an *Australian* reader to the *American* Soap Journal is now appearing in several *European* trade papers. With the next jump it will be around the world.

Our "Wanted and For Sale" page this month contains an offer of somewhat unique nature. Look it up.

If an excuse is needed for our publishing in this issue the article "How Suckers Are Caught," which has no direct bearing (on the surface) on the soap trade we have one ready at hand in the manner in which certain mail order schemes are invading the soap business in various ways. Of course we have no reference here to really legitimate mail order houses, of which there are many! But parties whose specialty it is to "mail order" others (country people chiefly) into entering soap making as a rapid way to wealth, merely for the sake of palming off a set of formulas of at least quite dubious nature, are scarcely doing a legitimate business.

The files of this paper show so many different examples of people who have been swindled by various soap schemes, that they would prove a mine of information to anyone who would undertake to compile a book on "500 Ways to Swindle the People." Books on "200 Ways to Make Money," on "The Manufacture of 17,863 Household Necessities," or similar subjects, are already on the market, but of the making of books there is no end and we confidently look forward to the volume suggested above.

Such a book would not be complete without the following new and useful device, as they say in the patent specifications, which comes from Maine:

A man distributed samples of soap among a number of school children and told them that if they would sell a specified amount of soap for him, his firm would make them a present. Then he collected the money from those who had sold the required amount of soap and left town. The only thing else he left was an unpaid hotel bill. Unfortunately he seems to really have been sent out as agent for a soap firm and the latter had to pay the hotel bill.

"Have you noticed," said a visiting soap manufacturer to us the other day, "how the style of advertising soap in magazines and daily papers is changing?" And, indeed, the last few years have shown but little of the former style which confined itself mostly to large claims as to "the best," "the purest," "the only pure," "the greatest on earth," "the easiest washing of all," etc., and so forth. Now-a-days manufacturers advance arguments and offer explanations that lead consumers to think and judge for themselves. This, however, applies equally to other branches of manufacture; for instance, we find in a recent issue of an exchange the statement that "during the last half decade the advertising of paints has assumed a new form; the manufacturers of the highest grade products have taken the public into their confidence and the campaign has been educational."

Another exchange says:

"The public was for a long time accustomed to look upon advertising as a species of innocent lying, and it must be confessed that they were justified in so doing—in fact, educated to it.

"It is the fad now, however, to tell the truth in advertising, and it seems that this fad is not only a good one morally, but a paying one commercially.

"The point is that the old-fashioned circus-poster style of advertising has been overworked and is entitled to a rest. The better educated people are, the more they want hard facts which appeal to the reason, and the less they care about the high-sounding and glittering generalities which may work on the emotions, but leave the pocket-book unsheathed."

Altogether we believe the statement is warranted that it is chiefly the better brands of soap which are advertised in the "new way," and such advertising, backed up by soaps that bear out the claims and arguments held forth, must in the end lead to a healthy reaction against the trashy goods on the market that are responsible to some degree at least for the bad condition of the soap business.

In connection with the latter statement we take this occasion to draw some additional inspiration from an editorial in a recent issue of *Drugs, Oils and Paints.* The editor of that paper wields a logical and forcible pen, and the following quotation from one of his most recent articles so closely agrees with one of our own statements last month, that it might serve as an illustration of "how great minds run in the same channel." He says:

"Half the dissatisfaction and difficulty confronting paint manufacturers arises from the fact that there is no standard. All manufacturers are agreed that quality depends largely on pure oil, yet there are manufacturers whose "high-grade" paints are ground in an emulsion. There are others—many others—who manufacture a high-grade paint of zinc, lead and oil, but vigorously compete everywhere with these high-grade products by selling inferior paints at a lower price, their own salesmen pushing the competition. In a business thus divided against itself, how can disaster be averted?"

We are aware, of course, of the fact that the manufacture of several grades of soap in the same factory is practically a necessity rather than a matter of choice; but that does not affect the principle.

Opening our mail one day last month, we found in it two newspapers from Grahamstown (Cape of Good Hope), dated November 13 and 15. In the course of years we have come to associate the name of Grahamstown very intimately with its Mayor, Lieutenant Colonel A. E. Nelson, with whom we have exchanged many pleasant letters owing to the fact that he has been for a long time a successful soap manufacturer in the city in which he was a most highly honored citizen. The receipt of these papers came to us therefore at first as a pleasant surprise. But sad disappointments await us when we least expect them, and in unfolding these papers we found in them the notice of—Col. Nelson's death and funeral.

We are not able to write out the thoughts that crowd in upon us at such a time. We also realized that very few of our readers would follow us in the train of thoughts started by such an intelligence reaching us. Indeed, we should have kept these thought entirely to ourselves, were it not that on a few occasions the deceased had compelled attention even in this country, and had become known by correspondence to some of our readers here, to whom we feel that we owe this notice.

To be as brief as possible: Albert Edward Nelson was born in Dublin in 1842; he settled in South Africa in 1862; he become an officer in command of the Grahamstown Volunteer Horse Artillery and so distinguished himself in active warfare that the city of Grahamstown became proud of such a citizen and honored him accordingly; the government, in recognition of

his services, made him Lieutenant-Colonel. The city later elected him as its Mayor and he reciprocated by laying the foundation of the prosperity of the city through his re-organization of the "City Market," which is a very prominent part of the city's business. In short, his record is one to which we cannot hope to do justice. What first attracted our special attention to him in reference to this country was the simple circumstance that he ordered an American machine (a soap crutcher) to be shipped to his factory, and then exhibited it in a local exposition before putting it into use; he was awarded a gold medal in that connection and promptly forwarded that medal to the makers of the machine. From that time on we had a warm spot in our heart for the man who so unselfishly transferred to a party thousands of miles away an honorable distinction that had been awarded him—perhaps by a misunderstanding. We were proud to number him among the readers of the SOAP JOURNAL and now feel the loss, even though we never had the good fortune to meet the deceased personally.

Considerable interest—not only from a scientific, but also from a practical view—may attach to the "splitting" of fats by the aid of fermentative action, which is at present being investigated and reported on in Germany. Just what the practical results will be in the end it is impossible to foresee—the more so since certain other new methods of splitting up fats (and subsequent saponification by means of carbonate of soda) are more or less distinctly in the process of development. From this variety of new processes something or other may be expected to develop in time that will have a very material influence on the art of soap making.

The industrial uses of certain fermentative microorganisms are exemplified on a large scale in breweries, distilleries, cheese factories, vinegar works, and some less large industries, and that fats are turned rancid, in other words decomposed in a manner, by the aid of certain organisms, has long been a frequently advanced theory. It has furthermore become probable that the chemical actions utilized in the various industries depend not so much on the organisms themselves as on certain unorganized products arising from their growth—the so-called enzymes. Thus it is the diastase formed in the barley grain during germinating which is used to convert large amounts of starch into dextrine, etc., and so there has also been discovered an enzyme which has the power of splitting up fats into fatty acids and gylcerine. This new method has been evolved in the Vereinigte Chemische Werke, at Charlottenburg, in the vicinity of Berlin, and its details have been elaborated by W. Connstein, E. Hoyer and H. Wartenberg.

From a copy of the Reports of the German Chemical Society just sent us we gather that early trials showed that oil from seeds ground in water will soon begin to split up, and that the process is further assisted by the presence of some acid. A test made with 5 parts (by weight) of castor oil beans, ground with 10 parts of water, to which had been added 2 per cent. of acetic acid and 1 per cent. of chloral hydrate, showed 58.4 per cent of the oil contained in the seed decomposed within 24 hours. The same test when applied to castor oil (in the absence of the seed) gave no result whatever, showing that some constituent of the seed must be the real agent producing the change. It was next ascertained that the same action ensued when other kinds of oil or fats were added to the ground seed. For instance, 5 parts of castor oil seed, 6½ parts of fat and 4 parts decinormal sulphuric acid were ground together and left alone for 19 hours. (The "fat" here, in several tests made, consisted of tallow, bone grease, cottonseed oil, palm oil, palmkernel oil, etc.). It was then found that from 72 to 86.6 per cent of free fatty acids were present at the end of 19 hours.

One test, made with 1 part castor oil seed (from which its oil was previously removed) and 2 parts of fat showed after 4 days of simple rest at ordinary temperature, 100 per cent of the fat decomposed. That the effect is due to the action of some constituent of the seed is apparently proven by these tests. Of all oil seeds tried, the castor oil bean was found to be by far the most active and therefore all subsequent tests were made with it; whether or not it had germinated before use seemed to have no bearing on the result.

That the enzyme in question requires an acid medium for rapid effect is shown by two tests, under otherwise identical conditions, one without the acid and the other with the addition of acid. It was found that within 2 days only 5.7 per cent. of fatty acid was separated when no acid was used, as against 92.8 per cent. when acid had been added. The kind of acid added for the purpose appears to be of no moment. The presence of alkali, soap, bichloride of mercury or other antiseptics, interferes distinctly with the process.

According to these reports it is only necessary to mix the neutral fats with the ground castor bean and acidulated water and leave them in a moderately warm place for a short space of time, in order to obtain fatty acids that have been entirely unaffected by heat. And all this without the use of pressure; in an open tank in fact.

The report from which the foregoing is a very brief resume comprises 19 pages and is therefore too large for

us to reprint. It is in German, of course, and we shall be pleased to lend it to any one desirous of reading it.

Meantime there have been reports circulated of late of a patent having been applied for in Germany, for a process of splitting up fats in an open kettle, the details of which will not be made public until the patent has been allowed. It being the invention of an entirely different man, and in practical use right along, it is understood, this also promises useful developments in the near future.

The wrapping of soap by machinery is a problem that has been worked over long and earnestly with, so far, apparently but middling success. Now, however, we hear of two different inventions that are said to have been so perfected as to make it a menace to hand wrapping.

One of these is a machine invented by John H. Fehnlee of Pittsburgh, which is reported to have been so perfected now as to wrap faultlessly any size, cutting the paper from the roll, and wrapping—when worked by hand—175 cakes per hour and correspondingly more when run by power.

The other invention is a machine invented by a foreman of the wrapping department at the Proctor & Gamble Company, a trial of which, according to our information, is just being made at the factory named. This machine is claimed to do the work of twenty-five girls.

From the persistent effort made to perfect inventions for the purpose, it seems certain that the end will some time be accomplished, if it has not already been done.

And still another invention of interest to the soap industry has been "Made in Germany." In the AMERICAN SOAP JOURNAL for June, 1902, we made mention of a soap press which received the hot soap and cooled it between two large plates representing sixty top and bottom dies, respectively, so that it furnished at the end of 20 minutes a large slab of sixty cakes adhering together at the edges and requiring to be cut apart.

This machine has since been modified in two important respects. It is now perfected so as to press, not the large slabs described, but separate cakes finished completely on all sides, doing away with all cutting, finishing and pressing of separate cakes. The former limit of the slabs to the size of sixty cakes was adopted on account of the difficulty of successfully handling larger slabs; as it is now, there is no limit to the number of cakes for which the machine can be built. The machine is said to permit of being operated twenty times in a 10-hour work day. The manufacturers intend to build a "giant" press than shall answer the greatest requirements as to capacity.

The other modification of the machine refers to the pressure applied. Arguing that the more the soap is compressed, the more it will be protected against subsequent drying and warping, hydraulic pressure is used, which can easily be carried to any desired degree. It is claimed that such compression does not materially reduce the volume of the soap—that the consumer will have no fault to find with the size of the cake even after this compression—for, so it is reasoned, the soap in the machine is a watery, inelastic substance which can be hardened by pressure but not compressed beyond a certain size, any more than water alone can be materially reduced in volume by pressure.

Continental Europe has not found much of our American soap machinery adapted to its conditions and in our previous report we expressed a doubt whether the limited capacity of this press would ever permit it to play any great part even in its own country. This objection seems to have been overcome and it is a very interesting question whether in this country could be used a soap press which in Europe is being hailed just now with great apparent enthusiasm.

R. C. Hubbell (according to the Lincoln, Neb., *Journal*, formerly a chemist for Swift & Co.'s), is reported to have invented a process for making the finest of soaps out of buttermilk, which in Lincoln is considered a waste product. According to the same authority arrangements are well under way for establishing a factory to exploit the process. A large creamery is said to have taken the greater part of the stock for the proposed $25,000 company.

The inventor is quoted as saying that "we shall use from 50 to 75 per cent. of buttermilk, butter greases and other byproducts of the creamery." Unfortunately, it is not stated what proportion of the 50 to 75 per cent. is butter *grease* and what proportion is butter*milk*, a question that would obviously have some bearing on the newness of the invention.

It is now in order for some Wyoming or Nebraska reporter to discover the inevitable natural spring of buttermilk.

Noticing in an exchange the advertisement of a correspondence school located at Scranton, Pa., which offers to teach almost any profession and trade by a course of correspondence and text-books, we find on looking closely that among other things it invites correspondence with parties desiring to "qualify for the position of a Manufacturer of Soap." The school advertises to give 96 courses of instruction to help young men to acquire a

practical knowledge of almost any industrial science they may select.

While we do not feel that any one can be "qualified for the position of a manufacturer of soap" by staying home and confining himself to a correspondence course, it is also certain that any one with a purely practical training can profit greatly by a well-advised course of theoretical study. As furthermore, the school mentioned appears to enjoy a good reputation, we thought it proper to request additional information on the course proposed by it for the beginning "manufacturer of soap."

The reply received consisted of an envelope containing an even dozen pieces of circular matter of more or less complex character and we have not had the time to thoroughly go through these. As this is not intended for a free advertisement of the school and as any one interested can easily obtain the same circulars for the asking, we shall not attempt to enter upon this subject exhaustively, but merely select a few of the leading points that have a general interest.

The course named "Manufacture of Soap" is offered at the price of $90 for tuition, which includes the loan of 8 text books; from the circular letters we gather that this course includes, first, General Chemistry and then a special course in soap making. A laboratory outfit costing $43 is also required (in addition) to be in the student's possession, unless he have access to some laboratory having these appointments. Judging from the illustration of the reference books as shown by the circular, the 8 books consist of 5 volumes on general chemistry and 3 on applied chemistry. One of the latter bears the inscription: "Applied Chemistry, Packing-house Industries, Cottonseed Oil, Leather, Soap." The course is given by explanatory text books which the pupil is to study, and by printed questions which he must be able to answer as a result of his studies.

Not having seen the text-books we do not know at present anything definite about the character of the institution.

Generally speaking, our column devoted to occurrences "Among the Soap Factories" would prove rather dry reading to anyone not directly interested in what does occur among the soap factories. Moreover, we are obliged to be rather brief in those items. And yet, if one stopped to reflect, there would be found hidden in many a three-or four-line item in that column the essenee of a whole life-time of ambition, energy, hopes, honest endeavor and disappointment.

In a few words this month, for example, we had in a matter-of fact way mentioned that E. D. Spicer of Adams, N. Y., after fifty years of labor, has closed his soap and candle factory. The reader, according to his own condition and environment, may conclude that Mr. Spicer had found himself beyond caring for earning money in active business; or that he had been forced to close up on account of financial difficulties; or that advancing years had made him unable to carry on business.

Any one jumping to either of these conclusions would find himself on the wrong track. As nearly as we can aseertain the circumstances at this distance, it seems that Mr. Spicer in his younger days happened to select the manufacture of soft soap and candles as his particular field. Who, fifty years ago, could have told him that he would see the day when both would be practically superceded by newer inventions?

It may be reasoned that with each new year the change of the times was becoming more and more evident and that it behooved every one in the business to trim his sails accordingly; but not everybody is so situated that he *can* change advantageously with every shift of the scenery.

Scarcely a single reader of these lines who is less than, say, thirty years of age (as Mr. Spicer was when he started energetically in business fifty years ago), will agree with us in the preceding proposition. No one beyond, say forty-five, will disagree with us.

At any rate, when writing out, month after month, our items for the eolumn of "personals" and seeing the everlasting changes in the picture presented by the soap and allied industries, we have often felt that these brief items ought to be supplemented in many instances by details of the manner in which they came about. But time and space forbid. It is the season of the year that led us to these few remarks, and now each reader may continue this train of thoughts according to his own taste.

The building to be occupied by the Winona (Minn.) Packing & Soap Co., is about completed. The company is composed of Emil Kaiser and George Ziegenfuss, both well known gentlemen of the city and both having been engaged in business in Winona for some time.

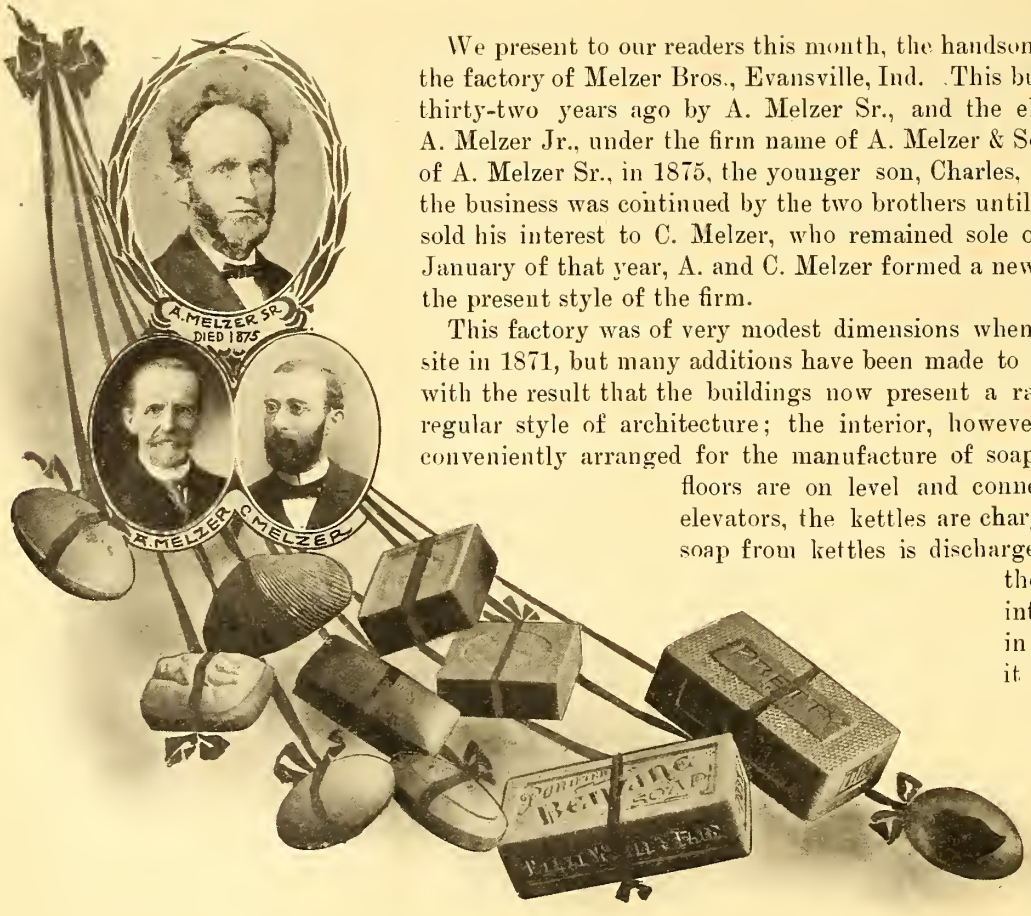
The main building covers a space of ground 80 by 100 feet and is from one to three stories in height with a basement under the entire structure. There are nine large rooms on the main floor all of which are to be up-to-date in every respect.

W. A. Mott surprised us by a visit last month, having come here from Mayfield, Ky., for a 24-hour stay. It seemed like old times. The Beaumont Soap Co., by the way, is eonsidered one of *the* enterprises of Mayfield.

AMONG THE SOAP FACTORIES.

No. 4, Melzer Bros., Evansville, Ind.





We present to our readers this month, the handsome half-tone picture of the factory of Melzer Bros., Evansville, Ind. This business was established thirty-two years ago by A. Melzer Sr., and the elder of his two sons, A. Melzer Jr., under the firm name of A. Melzer & Son. After the death of A. Melzer Sr., in 1875, the younger son, Charles, entered the firm, and the business was continued by the two brothers until 1893, when A. Melzer sold his interest to C. Melzer, who remained sole owner until 1900. In January of that year, A. and C. Melzer formed a new co-partnership under the present style of the firm.

This factory was of very modest dimensions when built on the present site in 1871, but many additions have been made to it from time to time, with the result that the buildings now present a rather complex and irregular style of architecture; the interior, however, is as practical and conveniently arranged for the manufacture of soap as is possible. The floors are on level and connected by three steam elevators, the kettles are charged from the top floor, soap from kettles is discharged by gravitation into the cooler, and from that into the crutchers hung in first floor, from where it drops into the frames that run on four tracks in the basement, which extends under the entire factory.

U. S. PATENT OFFICE 22123

The Messrs. Melzer have been brought up in the soap business, and have found so much interest and pleasure in same, that they have all along preferred to attend to their soap-boiling personally, at same time keeping a general supervision over the other departments. The results of this close application, coupled with a thorough scientific training and complete facilities for chemical and physical investigation and experiment, have been the development and utilization in their factory of various improvements of a chemical and mechanical nature; furthermore, during the thirty-two years of their business existence, they have not had a single box of soap returned because of poor quality, nor have they had a fire, failure, lawsuit, strike or accident involving the loss of a human life or limb; results which in large part must be credited to their personal attention and supervision.

Though eminently qualified and favorably situated to carry on a large business, they have been content with the business of their immediate locality and such trade from afar as has come to them without particular solicitation. This has kept them quite busy up to the past few years, when, owing to the aggressiveness of the many new-comers in the soap business, together with certain peculiar tactics of some old competitors, their output has been reduced; but this, they say, causes them no sleepless nights, as they have never aspired to make all the soap in the land.

Whilst the factory of Melzer Bros. is not one of the largest of its kind, it is certainly one of the cleanest and best appointed, and its productions enjoy an enviable reputation. The owners may be found early and late at the kettles, in the laboratory, or in some other department, thoroughly enjoying their work and the success of their business, which in large measure is the result of their individual labors.

The United States Government As An Example For A Successful Soap Manufacturers' Association.

"Publicity is a remedy for many evils"—my belief in this maxim must be my excuse for again asking you to publish inclosed letter (copy of same), which I had occasion to write recently. The essay signed "B. FAIR," printed in the December number of the SOAP JOURNAL is another proof of the correctness of the proverb above mentioned; had it not been published, the writer of the essay and some of your readers might class me with narrow-minded persons who speak disparagingly of soap chemists. It is true, my words, as used in an essay in this paper some time ago, might be understood as if I did not realize the exceedingly valuable services chemistry renders the soapmaker. What I meant, however, was to warn against a division of the mental powers of the chemist; the science he has chosen is of so complicated a nature that it requires the *undivided* attention of our best minds, and that it is a pity to see a good chemist spoil his chances of success by trying to meddle in soapmaking proper. Proper co-operation, a rational division of labor here, as everywhere else, is the correct course to be followed. Altogether, I fully agree with "B. FAIR." I hope I will be excused for this "preface" to my letter proposing more publicity to assist a successful Soap Manufacturers' Association. Being rather lazy of late, I send you copy of a letter already written, rather than write directly to the AMERICAN SOAP JOURNAL.

COPY.

Dear Sir:—You ask me how would I propose to organize a Soap-makers' Association. First of all, let me assure you that personally I have no talent whatever for anything of the kind, my energies are fully occupied; all I can spare for public use is in use. Writing my opinion now and then is positively all I would do towards the realization of the plans I propose. Were a meeting called by some one, of a number of men in sympathy with a movement as I advocate, I should be glad to go anywhere to attend the same and listen to what others have to propose; but others will have to assume the leadership. Those who have read my essays attentively know pretty nearly what I mean when I say that *those methods employed by our own government should be followed by an association of soap manufacturers.* That I have perfect faith in the success of *educational* methods, is proven by the fact that I have conducted my business, ever since 1875, along the lines I advocate. I am very well aware that a number of my colleagues call my ways "cranky" just as superficial persons, when reading the explanatory circulars which accompany short written replies from federal offices, are apt to call the same "unnecessary red tape." Of course, even the ways employed by the authorities are capable of being improved, as everything in this world, yet the educational ideas, the spreading of useful information, the increase of knowledge promoted by the different departments, are the only methods certain of success. Of the millions of seeds produced by nature annually, but few grow to maturity; does man mean to be smarter than his Creator and decline to spread the seeds of knowledge, just because only a limited number prove useful? There are few branches of trade where advanced knowledge would prove more useful than in our calling.

Every well-informed soap manufacturer has heard it said that the civilization of a nation is proportionate to the amount of soap it uses, but few realize how decidedly the consumption of soap could be increased by pointing out ways how the different trades and the public in gen-

LIBRARY

eral can lighten their toil by the proper use of soaps.

I am mailing you under separate cover some examples of our advertising in this line; I have spent thousands of dollars benefiting other soap manufacturers, nearly as much as myself, but it would be much more effective if name of firm was not mentioned. The public is skeptical when an announcement is written so as to benefit one certain firm only. (Remember the Uneeda Biscuit style of advertising as one example of Association Advertising.)

You may say my plan would benefit but a few; not at all, our government offers good examples in many ways, you know how it originated. First, let a few firms come together, such as work well together form "One State," etc., the example will be followed and the Association idea will develop gradually. You have had business with the authorities and know that the various departments have different duties, the Patent Office, Copyright matter; the Courts, Naval, Agricultural, Forrestry, etc., each have different matters to attend to. People living on the seashore near important ports, lighthouses, etc., know of the work of the naval department, but have no idea how, for example in portions of the country subject to forest fires, the government does much good work by putting up thousands of posters warning against the dangers of camp fires, giving instructions how to prevent the spread of forest fires, etc., etc. By systematizing, through a properly conducted Association the work of soap manufacturers and making it public, everybody would profit, the public as well as members of our trade, and because *this* object, the "greatest good to the greatest numbers," was neglected in former associations they proved a failure. This does not by any means say that we should work for the public only. Our just share for work done, a reimbursement for our enterprise is due us, and no one will begrudge us that. As it now is, soap manufacturers, while watching each other jealously, permit outsiders to skim the cream off of the soap trade. *Individual* firms cannot change this state of affairs; those who had experience trying to make certain brands popular or to advertise new uses for soaps know that as soon as success is in sight, others with nothing but capital to back them, step in and reap the harvest, the originator of Ideas has no chance to succeed unless backed up by money, but there is also much money lying idle for the lack of fruitful brain power.

Proper *co-operation* of the various "ingredients" neccessary for success is the proper way out of the difficulties under which the soap industry is laboring. Who will be the Leader out of the dilemma?

The St. Louis Exposition offers a rare opportunity for a combination of soap manufacturers to show the world what advances in *efficiency*, in quality, in purifying, waste-matter-removing qualities, Ameriean manufacturers have made of late years. The printed matter mailed you (I will gladly mail duplicates if you desire it) gives you more detailed ideas how soaps used by Physicians, Manicurers, Barbers, for the teeth, etc., etc., have recently been improved, and how such improvements ean be *demonstrated* easily and quickly.

Awaiting your further favors, I remain,

Sincerely yours,

GEO. A. SCHMIDT, SR.

[If any of our readers would like copy of same, Mr. Schmidt would forward same directly or through us, as he assured us, upon inquiry.—Editor A. S. J.]

The Soap Chemist.

EDITOR SOAP JOURNAL:

The article in December JOURNAL by MR. FAIR is very interesting, and we hope may lead to a full discussion of the chemists' position and significance in the soap factory, and tend to reduce the friction and antagonism frequently existing between the soap boiler and the soap chemist. We here use the appellation "soap chemist" advisedly, and beg to assure MR. FAIR that this is quite correct and that its employment implies no disrespect. The soap chemist is a special chemist, same as the soap boiler is a special boiler. Suppose we did not prefix the word "soap" to boiler, and that we called at a soap factory—here is the prefix, "soap," again—offiee with the request to see the boiler; of course, we would be directed to the fireman, who in turn would introduce us to an uncouth, black and dirty individual, whose welcome, though sufficiently warm, would be anything but agreeable; but if we asked for the soap boiler, we would be taken up-stairs to the kettles and introduced to a highly cultured, suave and urbane gentleman, wearing the regulation navy-blue overalls and smoking a 15c Havana, the picture of happiness and contentment, because of the prevailing unprecedented prosperity of the soap business.

Now, as to MR. FAIR'S inquiry: "What harm has the chemist's work wrought in the soap factory so far?" we confess that we don't know, unless perhaps it was a chemist (let us hope, not a soap chemist) that first suggested the use of tin crystals in soap. But even this would not be so bad, and we cannot agree with MR. FAIR that, millions of dollars have been lost to the soap industry through the use of this chemical. One of the fundamental laws of chemistry teaches us that nothing is lost in nature; thus, if we should light our cigar with a $5 bill, that piece of paper would go up in smoke, but the resulting products of combustion would be exactly equivalent to the elements that constituted that $5 bill; or, more correctly, that $5 bill would be resolved into its elements, and nature would be no poorer, although we would be out

the imaginary value placed on that slip of paper, say $5; but, here comes in another fundamental law, which says: Where there is a winner, there is a loser, and vice versa. In this case we are the loser, and the vice versa is Uncle Sam, from which we see that this law of compensation and equilibrium is a double-action affair, and the results, always a true balance. Now, coming back to the tin crystals; when the soap boiler (possibly by the advice of the chemist) poured a solution of tin crystals into the crutcher, he transformed a portion of his normal soap into tin-soap and common salt. Did he lose anything by this operation? From the chemical viewpoint, no; he simply caused an exchange of bases and the production of new salts equivalent to the first. From the standpoint of the business man we must also say, no; because what is lost by the man whose brand of soap is damaged by the tin crystals, is gained by the other fellow who uses no tin crystals in his soap, in that his sales increase in proportion to the decreased sales of the first party. See?

Seriously, a good soap chemist is as valuable in a soap factory as a good soap boiler, and neither of them will do any harm, provided the "boss" knows "what's what" and keeps an eye on their doings. This is the way we figure it out, and now let's hear from all the other chemists, soap chemists, soap boilers, soap makers and soap manufacturers. Very respectfully,

BIVALENT.

The Laboratory Chemist and the Practical Manufacturer.

NEW YORK, Dec. 11, 1902.

EDITOR AMERICAN SOAP JOURNAL.

DEAR SIR: One cannot help thinking that the peculiar phraseology used by B. FAIR in closing his article, "What Harm the Chemist's Work Has Wrought in the Soap Industry," required a *nom de plume* in order that he could talk back. It is not my purpose to enter into any controversy on the subject, but a certain little experience impressed itself so emphatically on me at the time, that I am about to write my personal thoughts on the matter at that time.

Some time ago there was an opportunity for the investment of capital in a formula which was evolved from the laboratory of an eminent chemist. You can readily imagine that the part taken by me was The Practical Manufacturer.

It is not desired by the remarks made with reference to the laboratory chemist to cast any reflections on his ability or prerequisite: these are too well known to enlarge upon, but rather mark his abilities and worth in the laboratory. But when it comes to the practical demonstration of any commodity, upon the consummation of which devolves a practical working, the practical man is far ahead of the chemist who, working by rule, theory and rythm, is tied down to a certain line of procedure, while the practical man only looks to the production of the article in its most available form without material injury to the compounding or to the qualities which have been made manifest by the chemist through his laboratory research.

As an illustration of this we might take the making of cold soap. Under chemical laws the adding of the lye should occur in a continuous, small stream; your practical man comes along and says: pour all the lye in at once and, instead of agitating it with that precision which your chemist's instruction calls for, get a move on and hustle it through; look out for results; if due attention has been paid you have an identical result as under the old slow method. It is in this way that your practical man is worth your steady money, while your chemist should draw his in a lump sum. Your laborer is certainly worthy of his hire when he can produce results which bring money into the treasury by his efforts.

The chemist in his laboratory, with his technical and complicated experiments produces samples which are of the finest and can go into a lengthy detail as to its utility and merits and yet, when it comes to the practical manipulation and money making features, they are dismissed with: Oh! that is only a matter of detail.

Put your laboratory chemist before the big kettles in a large soap factory; can he boil material with the same efficiency as the man in charge of the kettles? Can he really produce a practical business commodity? I doubt it. He should much rather take a sample of your soap, shut himself in his laboratory and by and by tell you what he has found in it and go into a long and technical explanation as to its qualities, and finally tell you it is all wrong. And yet the profits on this very article are paying him for his investigations and reports.

These remarks with reference to the workings of the chemist do not apply to the investigating chemist who works with a view to a new discovery as to the utility of a thing and its value as a commodity; who does not pretend to bring out its full practicability but leaves that for the manufacturer to bring to perfection, he being consulted only as to the true chemistry applied to the goods or material; and so the practical man comes in for a share of investigation and often makes discoveries which would otherwise never be found out.

In the formula alluded to, when given me, obscure names were given to the various materials; apparent inability to properly compound was made manifest in the manipulation of the chemicals, but more especially were

there errors in applying them; the final outcome was a change of oil with no further instructions than had already been given which amounted to nothing comparatively speaking.

Now, is there anything that will excite the curiosity of an interested individual more than to cover up a part he should know and in which he is interested? This suspicion that I should know, this covering up, only excited my curiosity and started me on a tour of investigation and expense, to see what the materials were, their power, corelations, and what the authorities in general had to say on the subject. To say the least, this had taken a great deal of time and expense and that at a time when I could ill afford it. But the information so gained gave me theory to make praeticability more effective.

I desire it to be distinctly understood that I am not saying anything with reference to the chemistry or chemical theory embodied in the formula; my part deals with it as a practical business proposition, in other words, as a money-maker.

When the formula was given me and I saw the laxity of methods and the unsatisfactory results obtained from the work when done as per instructions given, it excited my curiosity to investigate and see if the causes which were so detrimental to its praetieability could not be somewhat eradieated without jeopardizing its qualities, and a better article as regards remuneration be obtained. My first experiment proved the way was open to do this and in still going further into details I found that a most wonderful commodity of a business practieability could be made out of it.

My praeticability and experience, coupled with my investigations, enabled me to do this.

A little cloud arose, however, which put a stop to my experimenting, for it was most emphatically brought to my attention that no suggestions or modifications which might be made would receive any consideration nor be remunerated for by the company.

Under these conditions I naturally refused to divulge my investigations, but continued in compounding under my method and producing goods that were very acceptable. The final climax I need not mention.

The harm done by the chemist's work in this instance was that too much was expected from a formula with a laboratory compounding; it was utterly valueless as a business commodity; it harmed me inasmuch as the chemist's work was considered the entire factor, while my work produced actual results and gave the company goods to sell.

Furthermore, I have now a formula that is a praetical business proposition, but is something of a white elephant on my hands, except that I have the satisfaction of knowing that to keep it in health will not eat me out of house and home. Finally, I am willing to stand a chemical analysis of the goods and defy the chemist to tell me my formula and method of compounding; moreover a chemical analysis is very apt to show up component parts which were never put in by your practical man, or called for in the formula.

The trouble with the chemist's work is that there is too much searching for the philosopher's stone, and yet I should be very happy to be a qualitative and quantitative chemist.

A. H. NOLTING.

How Suckers Are Caught.

A FEW OF THE SCHEMES FREQUENTLY WORKED TO SEPARATE GULLIBLE PERSONS FROM THEIR GOOD MONEY, ARE THUS DESCRIBED BY *The New Idea*.

It has been a good many years since a philosopher, expressing his contempt for popular credulity, said "a fool is born every minute," but the truth of the statement has never been questioned. Nevertheless, it is probable that the statement needs revision for the rate seems entirely too low. The sucker multiplies rapidly and snaps greedily at every bait, learning nothing either by experience or observation. Hence the prosperity of many mail order journals circulated by the million without price. The man who has his line out for suckers can well afford to pay enough for his advertising to justify the free circulation of the trashy publications existing for that purpose.

The credulous person who reads that a formula for making gold that cannot be detected from the genuine article by any test will be sent for a dollar never stops to reflect that if any man had such a secret the wealth of Rockefeller would not avail to buy it. He sends his dollar and gets—if he gets anything—a formula for making a cheap copper alloy worth twenty cents a pound. As green as he is, however, he is no more of a fool than the trustful idiot who plays the bucket shops and thinks that by sending an occasional dollar for tips from a "wealthy retired broker" he can eventually go in and clean out Wall street.

It is interesting to examine some of these schemes, for they illustrate well a phase of human ingenuity that is being highly cultivated at present—the gentle art of separating a man from his money.

"GET RICH QUICK."

Here is one, for example, that shows how completely an advertiser has succeeded in keeping the letter of his promise and at the same time violating the spirit of it absolutely:

"A PENNY SAVED is a penny earned. We have a legitimate money-making scheme that will make you rich. Cannot fail. Plan and full particulars, by mail, 25 cents."

Here is what the sucker who expects to get a fortune for a "quarter" receives:

"One great cause of the poverty of the present day is the failure of many people to appreciate small things. They say if they cannot save large sums they will not save anything, not realizing that a daily addition, be it ever so small, will eventually make a large sum." After some more advice of this kind a table is given showing that saving 55 cents a day will, if placed at compound interest, amount to $58,000 in 50 years. This is truly a splendid prospect for the man who wishes to get rich quick!

EVERY MAN HIS OWN BREWER.

This next advertisement should appeal to the bibulous sucker who desires to accumulate exhilaration at the lowest market price.

"????? DO YOU RUSH THE CAN? If so, it will pay you to get our formula for making pure Lager Beer at a cost of less than 5 cents a gallon. Formula and full directions mailed on receipt of 25 cents."

What a chance to accumulate some of the wealth that has made Milwaukee famous! Here goes!

"Take 4 ounces of hops, 5 pounds of molasses or sugar, and 5 gallons of water, mix well together and boil 2 hours, then add enough boiling water to make up the loss. When quite cool add 4 ounces of good yeast, and stir well together; put the beer in a tub, cover with a sack and let it ferment or brew two days. At the end of that time it may be colored with caramel if desired, then strain into a keg or strong bottles and ferment 48 hours more with the bung out. In one week it will be fit to drink and will be stronger than London Porter."

AIMED AT THE COAL TRUST.

Here is one by a none too scrupulous schemer who expects to do the coal combine out of part of its profits from the recent strike and its advanced prices for fuel.

"COAL SAVER. Cuts your coal bills in half. Anyone can make and use it. It is simple, cheap and effective. Full instructions mailed for 25 cents."

So tempting a proposition is worth looking into.

"Mix three parts of friable sandy earth with one part of coal dust, watered with a sufficient amount of concentrated solution of soda to make a stiff paste. Form into small lumps and let it dry. The mixture will burn well and emit great heat." This advice is about as practicable as if he had said "Take a pair of scissors and cut the bill in two."

A REAL CURIOSITY.

On a par with this is the formula by which every man can be his own iceman. The preparation is called "liquid ice" for preserving milk, and "it acts on germ life exactly as ice does; it cannot be classed as an adulterant, as it stirilizes and adds to the keeping properties of the milk, and evaporates immediately so that no trace of it can be found even by an expert chemist."

"Sal natro-hydrate, 1 oz.; table salt, 1 oz.; carbozone gas solution, 1 pint; filtered water, 7 pints. Dissolve the sal natro-hydrate and salt in the water, then add the carbozone gas solution. Shake well and keep in tightly corked bottles."

Imagine if you can the result of an interview between the sucker who has paid a good hard American dollar for this formula and the druggist to whom he takes it for compounding.

A GOLDOMETER.

There are still a few idiots who believe in "divining rods" and similar devices for locating gold and silver ore. Such people are probably attracted by an advertisement which runs something like this:

"GOLDOMETER for locating gold and silver ore, lost and buried treasures, etc. Guaranteed to work or money refunded. Full instructions for making sent for $1 cash."

Such information being of a very valuable nature, we give herewith the instructions and anyone can see that they are very cheap at the price:

"Take a piece of white cedar wood and shape it like an egg, hollow the inside so it will hold about 3 ounces, after which it must be soaked for three months in borate of soda. Then take 1 oz. of mercury, 1 oz. of magnetic sand and 1 oz. of gold and put them all together in the hollow of the wooden egg, after which the end is to be sealed perfectly tight. Next, take an elastic cord and attach one end to a wooden handle and the other end to the egg, and the Goldometer is finished. In hunting for minerals or gold treasures go to the place where it is supposed to be, and when located, the egg will tremble and oscillate."

Why certainly! And suppose the victim should follow instructions carefully and after walking his feet nearly off in a fruitless search for "hidden treasure," complain that the thing would not work. He would be blandly informed that the fault was his, as he had not found the right place yet—when he located the "treasure" the egg would tremble. So it would!

PUTS DRUGGISTS OUT OF BUSINESS.

Here is one that is said to catch a good many chumps, too:

"NATURE'S HEALTH RESTORER. The greatest discovery of the age. Why suffer from disease when you can enjoy health and happiness? No drugs, no appliances, no fake. Instructions for self-treatment mailed for only $1."

The circular which comes in reply contains a few words of advice against over-eating, recommends drinking a glass of cold water just before going to bed and another before breakfast, and closes with the comforting

assurance: "Be temperate in all things and health and happiness will be yours." Or—as Mark Twain said—be careful what you eat and you will surely have dyspepsia.

THE FAKE DRINK CURE.

Here is the fake drink cure ad that is so often seen:

"SWEETHEARTS, wives and mothers: Our remedy is guaranteed to permanently cure the whiskey and beer-drinking habits. Safe, sure and harmless. Can be secretly given in tea or coffee without the patient's knowledge. Send for particulars and free sample."

The stuff that is thus destined to work the drunkard's moral regeneration is: Meconate of soda, 10 grains; sulphate of potash, 10 grains; sugar of milk, 80 grains. Mix and divide into ten equal powders.

That portion of the circular which describes the effect of the "remedy" says, "First, the patient will begin to find fault with the quality of the liquor he has been drinking, then he will begin 'doctoring' it by adding bitters, sugar or some other article. After taking four or five doses the patient will begin to perspire freely and a strong odor of liquor will be noticeable, a repugnance will be evinced to the taste or odor of liquor."

Many a poor woman has probably fooled away from $4 to $6 on such stuff as this, hoping to break up the "drink habit" in a husband or father, only to find herself just that much poorer than before.

FOR "LADIES" ONLY.

Here is an ad. that is said to bring especially large returns from the youth of the rural districts who invests his money confidently expecting to learn something startling:

"LADIES ONLY. On receipt of 25c in silver I will send sealed, in plain envelope, to any married lady a valuable secret that cost me $5. Money refunded if not as represented."

His disgust on receiving an ordinary recipe for a "complexion beautifier" is usually so profound that he does not ask for his money back, and if he should he wouldn't get it.

The following advertisement, also, is cunningly worded to appeal to a certain class who are prone to send their good coin for " rich and racy photos from real life" and the man who answers this gets more for his money than he deserves."

"A PRIVATE TIP. We will mail it sealed to any persons of either sex who is married or expects to marry and can keep a SECRET. Sure and harmless. 25c in silver brings it."

This private tip consists of a very common formula for making up a corn salve, and as such is undoubtedly unobjectionable "to persons of either sex, married or about to marry," or to anyone else in fact.

TO REMOVE THE KINKS.

Finally here is one with even more than the usual touch of humor:

"Do you live in a town having 200 or more negro population? If so and you want to make $50 or $100 a month easily, send $1 for scheme giving full particulars."

The scheme proves to be a "chemical discovery for removing the kinks from the hair of negroes." This rather remarkable discovery consists principally of strongly scented vaselin colored with alkanet root. Bergamot, citronella and benzoin are used to give the odor. It is "guaranteed harmless" and "its continued application will surely take the kink out of negro hair."

And these are but a few of the scores of schemes, neither the best nor the worst!

She Sized Him.

The other day the president of the bank, in our town, who is a cold business man, not bad at heart, but very much in earnest when he is in his office was about to meet with a lot of directors already there to hold a meeting, and, of course, they thought themselves secure from intrusion so they were surprised when a poor little waif came in and made herself quite busy. The child was shabbily clothed and had a face that was plainly pinched by want. She was entirely unconscious that she had entered upon forbidden ground. So she proceeded at once to offer for sale to them some little cakes of soap that she carried in a basket.

First she approached the president who without looking at what she had, was impatient at the interruption, and he said quite sharply: 'Don't want any. Never use it.' The small peddler, unabashed, went to all the others, who, out of pity for her wan little figure, purchased of her wares. As she started to leave the room, after thanking each purchaser, she hesitated a moment in front of the president, who, according to his own declaration, never used soap, and looking him over, from head to foot, disdainfully said:

"Well, yer look it," and started out with the sweep of a duchess. The president laughed outright and calling the young merchant back, purchased her entire stock, at his own price, which was much larger than her own. National Laundry Journal.

Extracts From Consular Reports.

SOAP IN SERVIA.—The Austrian Consul at Nisch (Servia) reports that Parisian household soap competes very strenuously in that market, the regular price being about 48 silver dinars per case of 240 pieces, weight 85 kilos. net, delived free Nisch. Owing to its superior quality and very low price, this soap is in great favor

with the local consumers. Hungarian household soap from Neusatz sells at 38 crowns per quintal. There is a small quantity of better quality bar soap imported for the use of foreigners resident there.

CANDLES IN MOROCCO.—The French Consul at Casablanca, Morocco, reports that French candle manufacturers, who once monopolized this market, are fast losing ground. The imports of French candles last year were about £55,as against £510 the year before. The reason of the restricted French trade is that the makers of other countries employ paraffin in the manufacture, and the French do not. Great Britain sent candles to the value of £4,080 as against £6·380 in 1900), and Belgium £850 (as against £1,725 in 1900). The total importations of the article show a decrease of no less than £3,610.

GREAT BRITAIN'S SHARE OF TRADE WITH CUBA.—The following goods were imported into Cuba during 1901: Soaps, worth £115,000, 87 per cent. of which came from Spain, but including also £7,000 worth of cottonseed oil from the United States and £12,240 of linseed oil almost entirely from the United Kingdom. Candles, worth £61,800, almost entirely from Spain. Perfumery, worth £40,000, almost entirely from France. The value of candles coming from Great Britain was £600, and the same amount for perfumery.

Colognes and Toilet Waters.*

BY WILBUR L. SCOVILLE.

It is plainly apparent to even the most superficial observer that a considerable change has taken place in late years in the compesition of commercial perfumes and toilet waters. This is due, in part, to improvements in the quality and variety of the volatile oils used, and to chemical investigations which have made close imitations of some of the more delicate odors possible by artificial means; but it is due even more to better methods of "fixing" the odors in the perfume, and to a decreased use of the animal fixing agents.

Formulas.

There is so much difference in individual tastes and in the demands of cost, that it is not to be expected that any single formula for a class of odors will be accepted as ideal, or any set of formulas regarded as complete.

There is no law in perfumery, but a few general considerations may be made regarding formulas for toilet waters, which will apply in most cases if not too rigidly interpreted.

Every toilet water, like a handkerchief perfume, should have a distinctive odor or quality. This is best secured by means of a few ingredients, carefully selected and of the best quality. A formula which contains a dozen or so ingredients usually means either that the author employed poor oils and sought to cover the bad qualities of each by a liberal variety of qualifying oils, or that he made mistakes in his first selection for a desired blend and sought to correct them in the same way. The simplest formulas are usually the best, so long as they contain the essentials. But they emphatically demand good material.

This does not mean that one must pay the highest prices and secure the fanciest brands invariably, but only that a good quality which can be secured only at a suitable price, is the cheapest in the end.

The problem of catering to the demand for cheap colognes and perfumes calls for a finer discrimination. The demand usually springs from an uncultivated taste, and may mean that the most vigorous odors are desired, such as sandal wood, rose geranium, verbena, etc.

These may be employed in place of the softer lavender, rose and neroli oils, or a really nice but cheaper odor may be secured by reducing the oil and alcohol strength. Since alcohol is by far the greatest factor in expense of toilet waters, a reduction in alcoholic strength means almost a proportionate reduction in cost. Moreover, odors develop more quickly and stand out more prominently in hydro-alcoholic than in alcoholic media, so the reduction of the oils in any of the following formulas, to one-half the quantities directed, and the use of diluted alcohol as a solvent, with corresponding reductions in the benzoin, will produce odors which appear, at first, quite as strong as the originals, but whose permanence is lessened.

Perhaps the chief value of the following formulas may lie in the fact that they are here made public for the first time; yet it is hoped that some may find one or more of them of real value. The samples which are submitted will show what may be expected from them by the use of regular commercial grades of materials.

Cologne.

This resembles closely the popular "Farina" colognes usually sold in sealed packages:

Oil of bergamot	1½	ounces.
Oil of lemon	6	drams.
Oil of neroli	4	drams.
Oil of orange	2	drams.
Oil of rosemary	2	drams.
Tincture of benzoin	2	ounces.
Orange flower water	12	drams.
Alcohol	enough to make 1	gallon.

This costs $3.40 per gallon.

The predominating odor is that of orange flowers. Other odors may be substituted for this if desired, the rest of the formula remaining as it is. For instanee, a

Lilac Water

or lilac cologne is made by substituting terpineol for the

*Read at the 1902 meeting of the American Pharmaceutical Association. Other portions of this paper appeared in extract in this paper for December, 1902.

oil of neroli, as follows:

Oil of bergamot	1½ ounces.
Oil of lemon	6 drams.
Terpineol	4 drams.
Oil of orange	2 drams.
Oil of rosemary	2 drams.
Tincture of benzoin	2 drams.
Water	12 ounces.
Alcohol	to make 1 gallon.

Cost, $2.90 per gallon.

Not an ideal lilac water, but it is suggestive.

Antiseptic Cologne.

Or an antiseptic cologne, having some of the fragrance of pine woods, and particularly adapted for spraying a room, may be made with a slight variation, as follows:

Oil of bergamot	6 drams.
Oil of orange	1 dram.
Oil of rosemary	1 dram.
Eucalyptol	2 drams.
Bornyl acetate	½ dram.
Tincture of benzoin	1 ounce.
Alcohol	5½ pints.
Water	2½ pints.

Cost, $2.05 per gallon.

Bornyl acetate is the odorous prineiple of oil of pine. It is about twenty times as strong as the oil, is much more soluble, and has a delightful fragrance.

The substitution of eucalyptol for oil of lemon increases the antiseptic qualities of this cologne as well as develops the characteristic pine-woods odor in an improved degree.

Headache Cologne.

If a headache cologne is desired, the addition of menthol and camphor to the first formula is all that is needed.

Menthol	4 ounces.
Camphor	1 dram.
Cologne (first formula)	1 gallon.

Cost, $3.80 per gallon.

Some may prefer a larger proportion of menthol, but don't overlook the fact that too much will irritate the eyes unduly when it is applied to the face and head.

Lavender Water.

This article is not as popular as it deserves to be, owing, perhaps, to variations in lavender oils. No oil is more variable than this, it being listed all the way from 50 cents to $16 per pound. The sample was made with an oil costing $1.65 per pound. A finer oil would not need the oil of orange to soften it:

Oil of lavender	4 ounces.
Oil of bergamot	1 ounce.
Oil of orange	2 drams.
Oil of neroli	½ dram.
Cumarin	½ dram.
Tincture of benzoin	1 ounce.
Water	1 pint.
Alcohol	7 pints.

Cost, $3.05 per gallon.

Many formulas direct oil of rose to soften the lavender, but neroli has a much finer effect and makes the lavender more fragrant.

Florida Water

is simply a spiced lavender water. Spicy odors may be added to the foregoing, or the following, which is a little less pronounced in lavender odor, may be preferred:

Oil of lavender	2 ounces.
Oil of bergamot	1 ounce.
Oil of orange	½ ounce.
Oil of neroli	½ dram.
Oil of cassia	1 dram.
Oil of carraway	15 minims.
Oil of spearmint	15 minims.
Tincture of benzoin	1 dram.
Water	1 pint.
Alcohol	7 pints.

Cost, $2.90 per gallon.

Bay Rum.

In spite of the legion of formulas for this article which shower down upon us continually, the so-called "imported" and "distilled" articles still hold a place. While a foreign label and an ugly bottle may have some charm, yet there is a softness and depth about these that the formulas usually fail to reproduce. So the "imported" article may have a real point of excellence.

But it is surprising how well this superior softness can be secured by employing a very little benzoin. It imparts a quality, if used sparingly, that is very agreeable, and that suggests the foreign brands.

The following formula is adapted from the *spiritus myrciæ* of the Pharmacopœia. It is weaker in alcohol and contains the benzoin:

Oil of bay	6 drams.
Oil of orange	½ dram.
Oil of pimento	½ dram.
Tincture of benzoin	4 drams.
Powdered orris root	1½ ounces.
Water	4 pints.
Alcohol	4 pints.

Cost, about $1.55 per gallon.

The powdered orris root is employed chiefly as a clarifying agent.

The use of rum in place of a portion of the alcohol is a well-known improvement, and I have preferred to let the formula emphasize the effect of the balsam; so I have not qualified it by the addition of an unknown element in the shape of a variable rum. Use a little good rum in

the above formula, and it will be found difficult to distinguish the product from some of the best "imported" brands.

Violet Water.

Courage fails me to attempt to discuss this vague and fickle thing. It contradicts all that was said about the refreshing qualities of a toilet water and the use of musk. It aims to be as *un*like the flower as possible, hence its diversities are legion. Violet is a delicate odor, but the public wants something vehement and colored green. Why it should be green they do not know, but if it is green they know what is in the bottle after the label has been washed off. It is the almost numberless variety of odors that pass for "violet" that discourages comment. It would not be mentioned in this paper were it not that the widespread demand must be recognized. This paper might be considered fatally deficient were it ignored.

Violet extracts and waters may be divided into two classes: those made with ionone, and those which depend upon a combination of rose, bergamot and sandalwood for a vague suggestion of violet. The only point of agreement is in the use of sandalwood and musk. Sandalwood is prominent in most of the violet perfumes, and some contain quantities of musk (artificial or natural) far above what is commonly employed in perfumes. Plainly, "violet" is not adapted as a refreshing toilet accessory for persons not in vigorous health.

The combinations containing ionone may have a suggestion of the real violet odor. Ionone itself has a delicate odor, and a quality which can only be described as "thin," and it resembles the odor of violets only in part. It needs something to fill out and give it "body" to become acceptable as a perfume. The most convenient single agent for this purpose is sandalwood, and the more of this the perfume contains the more certain is the user that "something smells." Ionone, though thin, is very extensible. Doubling the quantity does not double its apparent power. The art of its use lies in properly developing and backing it in a mixture. So, almost, any of the heavier and more prominent odors can be, and probably is, used in its combinations.

The following resembles, in a general way, a number of commercial violet odors, but it will never be mistaken for a bunch of violets:

Ionone	2 drams.
Oil of sandalwood	4 drams.
Oil of neroli	1 dram.
Oil of bitter almond	7 minims.
Oil of spearmint	15 minims.
Heliotropin	1 dram.
Musk (artificial preferred)	2 grains.
Tincture of civet	4 drams.
Water	2 pints.
Alcohol	6 pints.

Cost, about $4.75 per gallon.

Violet, more than any other odor, needs time to develop. Ionone disappears entirely when first added to alcohol, but after a few days it begins to show its presence, and it continues to develop for some time. Most of the published formulas direct excessive quantities of ionone, and the result may be unsatisfactory while the cost is prohibitive. Oil of orris may be used in place of ionone, using about eight times as much.

In some of the popular "violets" the rose odor is very prominent, and combinations with rose are almost as common as ionone mixtures. In the cheaper grades rose geranium is used in place of the rose, and the following is typical of this class, but the rose odor does not predominate:

Oil of sandalwood	4 drams.
Oil of bergamot	4 drams.
Oil of rose geranium (Algerian)	2 drams.
Oil of neroli	1 dram.
Oil of bitter almond	15 minims.
Musk (artificial or natural)	1 grain.
Tincture of benzoin	4 grains.
Powdered orris root	2 ounces.
Water	3 pints.
Alcohol	5 pints.

Macerate thirty days and filter.

Cost, about $3.20 per gallon.

The samples are colored with just a trace of green dye—not enough to leave a stain.

The second mixture is in some respects so incongruous that it, too, needs a number of weeks to blend. Oil of rose (in smaller quantity) in place of oil of rose geranium, will make a softer and more fragrant water.

Finally, remember that all perfumes require time to blend and ripen. Six months should be allowed for blending whenever possible. An economical way of securing a constant stock of well ripened waters is to blend the oils in quantities, one to a dozen years in advance, without alcohol, and then, when the cologne or toilet water is wanted, add the proper quantity of oil mixture to the alcohol and water, and set in a warm place from three to six weeks. Then it will be found ready for use.

All For Ten Cents.

Most of our readers are probably unaware that there is on the market a "Hin-Doo" Soap; in order that they may come to a full realization of what they are missing, we make the following quotations from a circular before us. This circular comes in the name of the American Hin-Doo Missionary Co., as manufacturers, with their "Western Laboratory" located at Tuscola, Illinois. Where the eastern laboratory is located the circular does not say, nor does it explain who the American Hin-Doo Missionary Co. is. The circular is issued for distribution by grocers, druggists, etc.

Now read and wonder:

HIN-DOO SOAP: A new discovery in science which positively contains no animal fat or grease, silicate of soda, chalk, resin or artificial coloring. The ingredients are all purely vegetable, imported from India.

The process of making is a new discovery coming from nature's own laboratory. It contains many medicinal properties, and will cure diseases such as piles, falling out of hair, salt rheum, eczema, scald head, barbers' itch, chapped hands, or any disease of the skin.

This is one of the purest soaps now made—coming from the purest oils and perfumes of India. For washing new born babies it has no equal. Doctors who use it once will use no other. For old sores and scrofula it contains such healing properties that in many cases it will cure where everything else has failed. HIN-DOO SOAP is positively free from all impurities. It is one of the cleanest and purest soaps made.

It is an invigorating tonic, vegetable preparation, positively free from any mineral or deleterious substances. It is the most delightful of hair dressings, cooling the head, allaying irritation, curing headache and throbbing temples, making the hair strong, fragrant, glossy and obedient to control. So cleanly to use that it will not soil the finest fabric, causing the hair to grow luxuriously and beautifully, removing dandruff and at the same time the cheapest preparation in the market. No man or woman can become bald who will use the HIN-DOO SOAP properly, and those who are already bald may secure new hair by using it freely, unless, indeed, as is frequently the case, the roots are dead, and all possibility of restoration gone. There is no excuse for gray hair, bald heads, dandruff or scalp disease. The HIN-DOO SOAP is a sure antidote. Price 10c.

The HIN-DOO SOAP contains delicate emollient properties derived from the vegetable properties that it contains, which makes it the greatest skin cure of any soap made, with the purest of cleansing ingredients, and the most refreshing of flower odors. No other medicated soap ever compounded is to be compared with it for preserving, purifying and beautifying the skin, scalp or hands. No other foreign or domestic soap, however expensive, is to be compared with it for all the purposes of the toilet, bath and nursery, thus it combines in one soap, at one price, namely, 25 cents per box, of three cakes, the best skin and complexion soap, and the best toilet and baby soap that is made. A speedy cure for itching, burning, scalp humors, hot baths with HIN-DOO SOAP to cleanse the skin, keeping the skin soft, and to heal any irritations that may come to the surface.

No organ is so perfect and so beautiful as the skin. Soft as satin—sensitive as a camera—tinted with the loveliest delicacy. Wealth and wit are nothing without beauty. It needs time to find other qualities. It is a beautifier, pure and simple. It is absolutely imperceptible, except in the youthful freshness and delicacy it imparts to the face. A few applications makes a pure complexion. It is purely vegetable, and its operation is seen and left at once. It does away with the flushed appearance caused by heat, fatigue and excitement, heals and removes all blotches and pimples, dispels dark and unsightly spots, drives away tan, freckles and sunburn, and by its gentle but powerful influence mantles the faded cheek with youthful bloom and beauty.

The HIN-DOO SOAP is the greatest beautifier of female complexion in the world. It is an unfailing cosmetic for a faultless complexion, which is woman's sweetest charm, the bright commingling tints of the lily and the rose with pure fresh, pearly, clearness and ravishing whiteness, take the place of the disfigurements which the HIN-DOO SOAP has driven away. It creates a marvelously beautiful complexion for those who have it not. It preserves, fair as a lily, those who have superior complexions. The HIN-DOO SOAP, when applied to the face, cheeks, arms and hands, makes them seem plump and graceful, as well as pearl like. Kissed with the delicate flush of the rose, it does away instantly with all the roughness of the skin, healing up rash, tetter, bites of insects, and keeps the skin cool, soft, pliable and healthy

Ladies, would you be irresistibly beautiful? Then you can not afford to slight the HIN-DOO SOAP. Price, 10 cents.

Silex.

We desire to call the attention of our friends in the soap manufacturing business to the specially prepared silex manufactured by The Bridgeport Wood Finishing Co., of New Milford, Conn.; New York, Chicago and Philadelphia. This concern is supplying the largest scouring soap makers in the country, and the silex is of a very superior quality. It is not made by the dry process, but the quartz rock is calcined, ground under water, precipitated, dried and bolted, thus insuring absolute evenness of grade and the absence of that harsh feeling present in so much of the silica offered to the trade. The Bridgeport Wood Finishing Co. would be pleased to give any information or submit samples for testing at any time.

Mr. Sidney Kirkman has this day been admitted to membership in our firm.

Kirkman & Son.

Brooklyn, N. Y., Jan 1, 1903.

Methods of Saponifying Petroleum and Mineral Oils.

The method proposed by Raymond for the saponification of petroleum and mineral oils is based on the principles of molecular contact between the petroliferous particles and those of the substances commingled therewith, which contact results in a kind of penetration of the molecules of a certain order by those of a different order.

The modus operandi is as follows:

A determined quantity of stearic acid, previously melted, is intimately mixed with the mineral oil. This mixture is then incorporated with a small amount of magnesium carbonate and a corresponding quantity of hydrochloric acid. When the liberation of carbonic acid gas has ceased and the mixture has become stable, it is treated in the cold with a solution of caustic soda containing about 20 per cent. of sodium carbonate. The mass is agglomerated by stirring, and begins to set, whereupon it is left at rest for several hours in order to allow time for the chemical operation of penetration to become complete.

The product is then heated, with gradual addition of the necessary amount of alkali to produce saponification, and, this done, the mass is boiled until it has been sufficiently reduced to the condition of liquid paste. This paste, like that of ordinary soaps, is next thrown into a solution of common salt, in order to remove all excess of alkali. The resulting soap floats on the surface, and has only to be collected and melted to be ready for framing.

The proportions taken are: Petroleum 100 parts, stearic acid 15 to 30, magnesium carbonate 1 to 2, hydrochlorie acid 3 to 5 parts, together with a lye composed of caustic soda, sodium carbonate, or caustic potash and potassium carbonate. Unlike ordinary soaps, this petroleum soap does not lather at all, but it is an excellent detergent, and is suitable for numerous applications in the industrial arts, such as cleansing woollen fabrics, silks, and cottons. Furthermore. it possesses the property of destroying parasites and curing skin diseases. Applied to the head, it does valuable service in preventing the scalp from getting too dry, obviating scurf and the resulting baldness, principally because it supplies the fatty particles necessary to the preservation of the hair. Moreover, instead of becoming dry and rough, remains unctuous to the touch.

When employed in the natural state, petroleum exhibits some of the above-mentioned qualities, but its unpleasant smell, inflammability, and liquid condition militate against its use. When converted into soap, these inconveniences disappear: The soap may be scented, and thus endowed with an agreeable odor, is also uninflammable, and may be kept indefinitely.—"Rev. Prod. Chim."

Some Curious Oils.

BY LYMAN F. KEBLER AND DR. GEO. R. PANCOAST.

In the drug trade demands come from time to time for curious oils, some of which are exceedingly interesting. When such calls come many druggists are very loath to see an inquiring customer depart without having his wants supplied, knowing full well that some one will comply with his request by giving him something, which, as a rule, is not true to name. Many of these oils can be supplied in some localities, but in others it is practically impossible to secure them. The use of the oils is chiefly prompted by their traditional value for rheumatism, and this in a measure explains why some orders are filled as indicated below.

For several years we have been collecting data from various sources, and below give our results to date:

Adder Oil.—This is generally filled by mixing lard oil three parts, skunk oil, 1 part.

Angle-worm Oil.—One formula reads as follows: "Linseed oil, 19 parts; animal oil, 1 part." Another formula Oleum Lumbricorum directs that the angle-worm be smothered in wine, then digested in two parts of olive oil and expressed. According to another formula angle-worms are sealed up in a bottle, the latter enclosed in bread dough, and then the whole baked in an oven. The decomposition fluid thus obtained from the worms is poured off. Hager's formula consists of rape seed oil, 25 parts, and oil of birch tar, 1 part.

According to another formula, one part of worms is cut up in one part of sherry wine, then infused in four parts of olive oil. Angle worm oil is sometimes supplied by slightly coloring olive oil with oil of amber.

Ant Oil.—Oleum Formicum. Digest four parts of ants in 16 parts of olive oil at a gentle heat, and then strain.

Bait Oil, or oil of rhodium, is used in trapping wild animals, for the purpose of disguising the odor of the person handling the traps, and usually consists of balsam copaiba 4 parts, salad oil 1 part, oil of almonds 5 parts, flavored with from 5 to 10 drops of oil of rose geranium for each ounce of the mixture.

Bat Oil.—Some form of bird oil is usually supplied. such as chicken fat.

Bear's Oil.—This can be obtained in the United States; coming usually from the black bear, but the cinnamon and grizzly bears often furnish some. Efforts should be made to secure a supply of the article during the bear-hunting season. The same described below was obtained from a Philadelphia restaurant. The chef, for a consideration, saved the bear's fat for a season for one of us (P.). The article can, therefore, be reasonably considered genuine.

Bear's fat is a pale yellow, semi-opaque, oily liquid at summer heat, but solidifies in eold weather; having a peeuliar odor and a bland taste. At 15 deg. C. it has a speeific gravity of 0.913, an acid number equal to 3.93, a saponification number equal to 203.0, an iodide figure of 80.43 and congeals at plus 9 deg.

Bear's fat is credited with the property of strengthening and invigorating the growth of hair. Unfortunately, the scarcity of the article has caused substitution to be resorted to in many cases, such as purified beef marrow, lard, veal fat and almond oil thiekened with spermaceti. Barbers frequently use petroleum and eall it bear's brease.

Beaver Fat.—Neatsfoot oil is generall supplied.

Brick Oil.—As a rule this oil is not supplied by any one; but is supposed to be made by the following formula: "Quench red-hot brieks in olive oil, break them into small fragments, distil in a retort with gradually increasing heat, and separate the oil from the distillate."

Calendula Oil, like oil of hyoseyamus, cantharides, etc., is usually sold as an infused oil. That is, the drug is macerated in some fixed oil, like olive oil, at a slightly elevated temperature for a given time and the oil expressed and filtered.

Clover Oil consists of an aleoholic solution of indefinite proportions of eoumarin, vanillin, heliotropin.

Catfish Oil.—This oil can easily be secured in localities adjacent to the Mississippi river, where large catfish are eaught; but in other parts of the United States it is not so readily obtainable. Usually some fish oil is supplied.

Crocodile and Alligator Oils.—Fish oils are usually supplied.

Deer Oil.—This ean generally be obtained from some of the restaurants where venison is served; but in general, the oil is not readily obtained.

Dog Oil.—This is a common household remedy and may be found in many farmers' homes; but has not found its way into the trade channels to any extent.

Eel Oil is not readily proeured, and usually some fish oil is supplied.

Fox Oil.—Skunk oil is frequently given; but Dippel's oil, with a little tincture of asafoetida, has also been supplied for this article.

Habacuc Oil.—For this the following mixture is usually put up: Chamomile oil, 1 part; oil of thyme, oil of rue, oil of tansy, eaeh 6 parts; oil of wormwood (fatty), 200 parts.

Hedge Hog Oil.—Lard oil or neatsfoot oil, or mixtures of the two, are usually given.

Lobelia Oil.—A number of preparations are put up under this name. One is the true oil obtained from the lobelia seed by extraction with alcohol, and another is an alcoholic solution of the lobelia plant. Exactly how it is made we have been unable to ascertain.

Mullein Oil.—Several articles under this name are also found. One is an infused oil like calendula; another is said to be made by collecting the flowers, placing them in a bottle whieh is tightly stoppered, and the whole submitted to the aetion of the sun; and it is said that the oil in time oozes out of the flowers. This we are told is the true oil of mullein.

Mink Oil.—Skunk oil is the article generally supplied.

Mereury Oil.—It is said an oil by this name has been supplied by placing some blue ointment in olive oil and agitating same. This is hardly ereditable.

Mermaid's Oil is usually made up by mixing equal parts of eocoanut oil and lard oil, flavoring the same with cod-liver oil.

Ozonated Oil is made by passing oxygen into an oil such as coeoa-nut, sunflower, eod liver, etc., until no more will dissolve, then exposing for some time to the direct rays of the sun. Used in phthisis.

Pickerel Oil.—Fish oil is usually supplied.

Porcupine Oil.—Orders are filled like those for Hedge Hog oil.

Porpoise Oil.—This is a regular artiele of commeree, and can be obtained at any well regulated oil dealing establishment.

Rabbit Oil.—It is not diffieult to obtain this oil, inasmuch as rabbits are frequently very plentiful.

Raccoon Oil.—One of us (K) has frequently seen this oil in his boyhood days, and it should be readily obtainable in certain farming communities. Lard oil is frequently supplied when raccoon oil is called for.

Rat Oil.—We have been unable to find what has been supplied when an order came for this produet.

Rhodius Oil.—See Bait Oil.

Rattle Snake Oil is obtained from the Crotalus, a reptile peculiar to America, and much dreaded for its deadly venom, although it seldom attaeks man unless molested, and its rattle usually give timely warning of danger. Genuine rattlesnake oil can be obtained from those who make it a business to hunt the rattlers in mountains or marshy parts of the country where the hand of man has not yet devastated the forest or broken the soil for his crops. Twice a year the rattlers quit their haunts and spend from 10 days to a fortnight close by the water. The hunter calls this habit their "spring and fall swims." They indulge in this custom soon after appearing in the spring and just before hibernating for the winter. In August the snakes are blind, and necessarily sluggish in their movements. At this time they do not warn the intruder, and are, therefore, more dangerous, inasmuch as they strike without the customary warning or rattle, which if once heard will never be forgotten. During

the hot weather the snakes get very thin, and it does not pay to catch them at this time, as the quantity of fat to be obtained is very small. In general, the oil of two dozen snakes is equal to that produced by one skunk. The forest fires kill many of them, and in consequence of this and other factors, they are decreasing in numbers every year, and one or more hunters are bitten every year by these snakes; but, curiously enough, they seldom die from the effects of the poison; nevertheless they seldom recover entirely from its effect. Taking all these facts into consideration, it is not surprising that the genuine oil brings good prices; $2 an ounce being readily paid. The demands appears to be continually increasing, while the source of supply is becoming exhausted, and in a few years it will no doubt be unobtainable.

A quantity of this oil, which we have every reason for believing genuine gave on analysis the following results: Specific gravity at 15 degrees C., 0.9217; acids number, 3.57; saponification number, 210.9; iodine figure, 105.58.

Skunk Oil is obtained from Mephitis Varians, one of the weasel family. They are about the size of a common cat, generally black or brownish-black, with white and black stripes along the back, and a white ring around the neck. The skunk is sometimes called a pole-cat, although this name properly belongs to its English cousin (Putorius Foetidus), also called Foul Martin or Fitch. To artists the hair of the Fitch or the Fitchet is well known as that of which their best brushes are made; the long hairs which grow through the lighter colored fur of the animal being used for this purpose. The American skunk, in common with the pole cat, depends as a means of defense upon an exceedingly fetid fluid which is discharged with considerable force and some degree of accuracy when attached, from secretory glands located near the root of the tail.

The properly prepared oil is yellowish in color, odorless, and of a bland taste, with occasionally a sediment of stearin at the bottom of the container. All the oils obtainable in commerce, however, have more of less of the odor peculiar to the animal.

A number of samples examined during the past two years, gave the following results:

No.	Specific Gravity at 15 degrees C.	Acid Number.	Saponification Number.
1	0.9120	2.85	207.57
2	0.9120	2.84	206.3
3	0.9234	18.9	220.12
4	0.9218	8.8	199
5	0.9166	31.0	206

No. 5 of the above is known to be genuine, inasmuch as it was taken by one of us (K) directly from the animal. The acid number is a little high, which is probably due to a slight decomposition of the animal at the time the fat was removed. No. 3 seems to be of questionable purity.

Stillingio Oil.—An alcoholic extract of the root is at present supplied for this product. The exact manner in which it is made, we are not familiar with.

Stork Oil.—Some bird oil is usually supplied.

Sturgeon Oil.—Fish oil is usually supplied; but we see no reason why this oil cannot be obtained from the caviar factories, if application be made for it there.

Swallow Oil.—Some bird oil is usually supplied.

Turtle (Green) Oil is obtained from the Chelonia Mydas commonly found in the markets, weighing from 700 to 800 pounds, and from 6 to 7 feet in length. In the proper seasons, the oil can be obtained from those who use these turtles for the tables in large hotels. These people are generally aware of the commercial value of this article, and use every effort to prepare it pure.

Viper Oil.—Usually filled like adder oil.

The Estimation of Rosin in Soaps, &c.

Drs. Holde and Marcusson have proposed a method for performing this analysis which seems to be a satisfactory one at last. Every one interested knows how unreliable the methods of Gladding and Barfold are, while Twitchell's is little, if any, better. Lewkowitsch has shown that errors of as much as 4 per cent. are common with Twitchell's method, while errors of double that magnitude are by no means rare. As Twitchell's has probably been, on the whole, the best method so far, it is interesting to note the sources of these large errors. They are chiefly three in number—incomplete esterification of the fatty acids, the presence of unsaponifiable bodies in colophony (which, of course, at once makes the process defective), and the loss of the resinous matter through its solubility, real, if slight, in acid containing water. Drs. Holde and Marcusson have now combined Twitchell's method with Gladding's in such a way, and from two unreliable processes have made one which gives results that can be depended upon within 1 per cent. The greatest error yet made in working the new process and testing it on samples in which the amount of colophony present was known beforehand is an excess error of 0.85 per cent. This method may be briefly described as follows: After saponification with alcoholic potash of a known weight and about 5 grammes of the sample, the fatty acids are set free with a slight excess of hydrochloric acid, and removed from the other substances by extraction with ether. The ethereal solution is evaporated, and the residue is dissolved in 50 c.c of absolute alcohol, and esterified by Twitchell's method. The liquid is then allowed to stand for half an hour, diluted with five times its volume of water, boiled, and

extracted with ether when cold. The remaining water is neutralized, evaporated to a small bulk, again acidified and then again exhausted by shaking with ether. The combined lots of ether are then shaken up with caustic potash lye containing 10 per cent. of alcohol. This extracts the resinic acids, and their solution in the lye is acidified and exhausted with ether. The residue got by evaporating the etheral extracts thus obtained consists of resinic acids and any fatty acids that have escaped esterification. It is weighed, and treated by silver salts and ether according to Gladding's method, to get the resinic acids by themselves. A correction of 4 per cent. is made in the final calculation to allow for loss of compounds of fatty acid and oxide of silver by partial solubility. If less than 20 per cent. of rosin is found, the total amount is increased by 8 per cent. of itself to allow for the unsaponifiable compounds in the rosin. If, however, an amount in excess of 20 per cent. is found, these unsaponifiable matters must be actually determined.

In ceresine or paraffin free from fatty acid, rosin can be determined by simply dissolving it out with 70 per cent. alcohol.—"Revue der Fett und Harz Industrie."

An Argument.

"Suppose you were taking a bath——"

"Well?"

"—and suppose you lost the soap in the tub——"

"No, no! I never did such a foolish thing."

"Of course, I understand; but just suppose you did."

"That's absurd! I never did such a thing, I tell you; it is impossible to suppose it!"

"Now, listen—just for the sake of argument, let us suppose that you lost the soap, while——"

"But, sir, I will not agree to an absurdity for the sake of argument or anthing else! Go away! I don't want to argue with you!"

"I don't care whether you do or not! I insist upon arguing about that soap!"

"Then confound it, go out and argue with a wood pile, or a horse-post, or anything else that can't get away from you!"

"You talk like a bone-headed fool! I dont believe you know what soap is, anyway!"

"Sir, you are a ——!"

(Curtain.)

Moral: It takes two to make a quarrel, but almost any two will do.—*The Smart Set.*

If the two had only stopped to think of floating soap for a second, the whole tragedy would have been prevented.

It's Nice To Be An Editor.

It's nice to be an editor, it really is, indeed;
The edit man gets such a lot of jolly things to read.
He never has to work at all—just sits from morn to night
And spends his time perusing what the other people write.

A thousand writers 'round the globe contribute to his mail;
Then send him postal pouches filled with every kind of tale.
With all that knowledge coming in, no college course he needs—
There's liberal education in the raft of stuff he reads.

He reads a bulky screed about "Queen Wilhelmina's Gown,"
Another on the question, "Why Don't Trees Grow upside down."
He ponders o'er "The Future of the Turkish Sultan's Crescent,"
And turns to scan a "History of Hatpins, Past and Present."

A weighty manuscript attracts his editorial eye,
Entitled, "Speculations on the Origin of Pie."
He reads a dissertation, then, called "How to find the Pole,"
And lingers long and eager o'er "A Substitute for Coal."

A chap in Cape Town gives him points about the fieree Ashantis,
A man in Russia wants to tell "How Cossacks Build Their Shanties,"
A woman sends a poem, named "The Clouds of Life Are Lifting,"
And several hundred people write on "Whither Are We Drifting?"

It's nice to be an editor, it really is, indeed;
The edit man gets such a lot of jolly stuff to read.
So easy is his daily work, the wonder is to me
They put him on the payroll for to draw a salerie!

—Exchange.

QUESTIONS AND ANSWERS.

In this column we shall print questions of general interest submitted by subscribers and invite replies to the same from our readers, which will be printed in the next issue of this paper.

QUESTIONS.

QUESTION No. 35: You have noticed the statement in another paper that there is no known method for converting Beaume degrees into specific gravity and vice versa. But I recollect such a method to have been published in the AMERICAN SOAP JOURNAL years ago. Will you repeat the formula?

(See our reply below.)

QUESTION No. 36: Where can I obtain information as to the relative value of oils, such as fish, fish oleine, red oleine, etc., when compared with a good mixed beef and mutton tallow? For instance, I am offered fish oleine at £22.10 per ton, red oleine at £27 per ton, tallow is selling at £30 per ton. At these prices is it to my advantage to use tallow or a mixture of tallow and oil (red) in soap making?—AUSTRALIAN.

ANSWERS.

To QUESTION No. 35: The statement to which you refer—in fact the entire article in which it appeared—is taken bodily from an English paper, including even the reference to "frequent enquiries from subscribers." To convert Beaume degrees into specific gravity, divide 146 by 146 less the degree Beaume; to convert specific gravity into Beaume degrees, subtract from the figure 146, the same figure 146 divided by the specific gravity. For instance:

Given 38° B., to find sp. gr; divide 146 by 146 less 38; 146 divided by 108 = 1.352 sp. gr.

Conversely, given 1.352 sp. gr., subtract 146 divided by 1.352 (= 108) from 146, which gives you again your 38° B.

There is, *theoretically*, a slight difference in this method from actual facts, but this is of no practical import whatever.—Editor A. S. J.

ANSWERS IN BRIEF.

G. C. C. of N. C.: We do want more advertisements, but only such as are of real interest to our readers and in their interest. We never printed a patent medicine advertisement yet, and never want to.

M. S. of O.: There is not, so far as we know, any one in either Chicago, St. Louis or Cincinnati, who makes it his business to deal in second-hand soap machinery. We have, instead, mailed you addresses of such firms elsewhere.

A. S. of Wis.: Wholesale druggists in this city are the Yahr-Lange Co. and the F. Dohmen Co.

H. B.: Our complete list of soap brands is not published at stated intervals; the latest edition together with the latest supplement in this paper is at all times a complete list; whenever the supplement becomes too large to appear in this paper, we reprint the complete list in book form. To register a brand you can either obtain from the patent office at Washington, blanks and instructions, or apply to a patent attorney; as such we recommend W. G. Henderson at Washington, D. C., or Munn & Co., of New York, unless you have a good patent attorney locally whom you would prefer.

PATENTS AND TRADE-MARKS.

The following list of recent Patents and Trade-Marks is reported by W. G. HENDERSON, Solicitor of American and Foreign Patents and Trade-Marks, Norris Bldg,, Washington, D. C. A copy of any of the following will be furnished by him for 15 cents.

PATENTS.

713,654. Washing machine. Bartin W. Kyle and C. Graham, Tarkio, Mo.

713,763. Washing machine. William H. Haydon, assignor to W. H. Rice, Gallinas, Tex.

715,297. Starching machine. William H. Rickey, East Orange, N. J.

715,322. Washing machine. Joseph N. Uri, Mayberry, Neb.

715,496. Clothes-washing machine. Onesime E. Michaud, St. Louis, Mo.

LABELS.

9,612. Title: "Gem Washing Compound." (For Soap and Washing Compound.) Clara Pearce, Philadelphia, Pa.

PRINTS.

576. Title: "A Happy Home." (For Soap.) Geo. Schmidt Co., Chicago, Ill.

AROUND THE SOAP FACTORIES.

News-items sent us by our readers will find prompt attention in this column

The firm of Kirkman & Son, Brooklyn, N. Y., announces that Sidney Kirkman has been admitted to its membership.

A creosote factory is being erected at South Eastman, Ga., which, besides a number of products from pine wood, is also intended to make soap.

Incorporated at Pierre, S. D.: The Pennsylvania Soap Co., of Huron, S. D. Capital $100,000.

Oliver & Co., of Charlotte, N. C., are erecting a cotton oil, lard and soap factory near Portsmouth, Va.

Geo. W. Norton of Somerville, Mass., is beginning the erection of a 3-story brick building for his soap factory.

J. J. Cahill, general manager of the new packing plant in Denver, Colo., says that eventually soap making will become part of the plant's business.

Articles of incorporation of the United Oil and Soap Company of Camden, Ark., were filed with the secretary of state. The capital stock is $100,000, of which $50,000 has been subscribed. John G. Taylor is president and treasurer: H. S. Powell, secretary.

An ordinance has been introduced in the Baltimore city council granting permission to Barry & Dost of that city to operate a soap factory.

The Cudahy Packing Company is constructing a new glycerine works at South Omaha, Neb. Glycerine for nitroglycerine is to be the principal product.

The Palmer Soap & Specific Co., Pierre, S. D., capital $100,000 has been incorporated by M. H. Palmer, C. H. Springer and G. V. Pattison.

The Durango, Col., Soap Works were severely damaged by fire early in December, but judging from a letter just received they are already hard at work again.

The soap and candle factory operated for the past fifty years by E. S. Spicer at Adams, N. Y., has been shut down by the proprietor.

The Weaver Mfg. Co. of New York, it is reported, figures on erecting a soap factory at Waukegan, Ill.

The hide, tallow and oil warehouse of Nathan Wolff & Son, Buffalo, N. Y., was burned.

W. H. Burwell, Boone, Iowa, is engaged in toilet soap manufacturing.

E. E. Wheeler has started a small soap factory at Tullahoma, Tenn.

Washington Berry, of Chicago, has secured a German patent on an apparatus for making soap containing advertising cores, floats, etc.

W. W. Terriff, of Portland, Mich., is remodeling the former National Hotel of that city for use as a soap factory.

The Hine Bros. Co., of Chicago, have acquired 3½ acres of land on Ashland avenue and the south branch of the Chicago River, for the purposes of tallow and soap making.

The Larkin Soap Co., of Buffalo, is negotiating with the city for the purchase of an adjacent school site 80x150 feet.

The H. W. Dopp Company has been incorporated in Buffalo, for the purpose of taking over the soap machinery business of the H. William Dopp & Son of that city. As directors of the new company are named: Charles C. Bosche, George R. Howard, S. E. Griffin, John Sedgwick, Robert L. Cox, Francis K. Kerman and J. A. Robinson.

George Simmonds & Son, of Mt. Vernon, Ohio, now manufacturing paints and colors, intend to take up the manufacture of soaps.

The firm of Bruno Cortes e hijo, of Silao, Mexico, has been dissolved. The father will continue in the soap business in company with two brothers, under the name of Cortes Hermanos (i. e. Cortes Brothers), at Irapuato.

The Markets.

TALLOW.—New York City in hhds. offered at 5¾ to 5⅞c; in tierces 6 to 6⅛c; market on the whole rather quiet and buyers slow, expecting supplies to accumulate more freely in near future. Country make sold at 6 to 6⅛.

GREASE.—In sympathy with tallow is restricted and prices rather nominal. "A" white, 7 to 7¼c; "B" white, 6½c; bone and house, 5⅛ to 5½c; yellow, 5⅛ to 5¼c.

COTTONSEED OIL.—Last New York sales at 39c for prime yellow.

CORN OIL.—4¾ to 5c; Position weak.

COCOANUT OIL—Ceylon held at 6½ to 6⅝c spot; 6¼ to 6½c asked for January arrivals; Cochin, 7¼ to 7½c asked for spot, 7 to 7¼c for supplies to arrive this month.

OLIVE FOOTS.—6¼c for spot; same price asked for new crop to arrive.

PALM OIL.—5⅜ to 5½c for prime red; 5¾c for Lagos, and 6c for choice quality. Palm Kernel Oil 6c.

RED OIL—6¼ to 6½c for Saponified; demand and supply both quiet.

ABOUT

KANSAS CITY

TALLOW AND GREASES

wire or write

J. F. MOSSER & CO.

218 La Salle Street,

CHICAGO, ILL.

Latest Additions to Our Brand List.

344 Home Soap Co., N.Y.
345 Columbia Ref'g. & M'f'g Co. Ltd., New Orleans.
Antillia 2
Beauty Belle 115
Bell's Brown 343
Blue Chip 340
Blue Cloud 2
Blue Coco 340
Blue Family 340
Blue Monday 340
Blue Olive 340
Chlorine 340
Cleaneasy 286
Dactylis 11
Dermicura 327
Empress Eugenie 115
Eucryl Eucryl Ltd., Hull, England.
Evergreen 286
Facine 340
Fairbank's Primrose 2
" Scouring 2
" German Fam. 2
" Glycerine-Tar 2
" Mottled Germ'n
" Olive 2
" Navy Blue 2
Federal Family 1
Floral Feast 115
Flannel 2
Flip 345
Fragrant Honey 2
Geyser 343
Gold Seal Soap Flour 340
Green Olive Chip 340
Green Palm 340
Green Seal Chip 340
Gusher 340
Hard Maple 155
Iroquois Maiden 115
Jewel 2
Kazan 343
King Solomon's Rock Oil S. Mnross Jenkins, N. Y.
Lakeside (Scouring) 2
Limberine, E. A. Warren, St. Paul, Minn.
Lion 2
Long Shot 345
Madeira 16
Madeira Almond Cream 16
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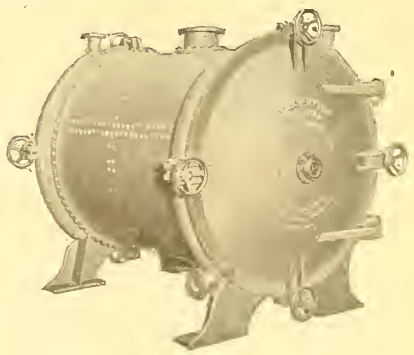
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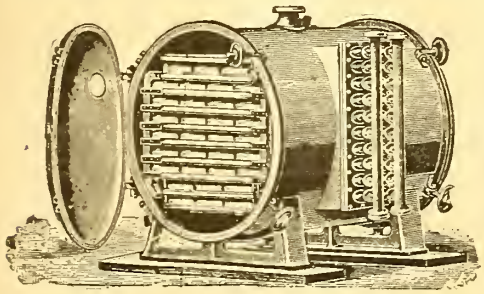
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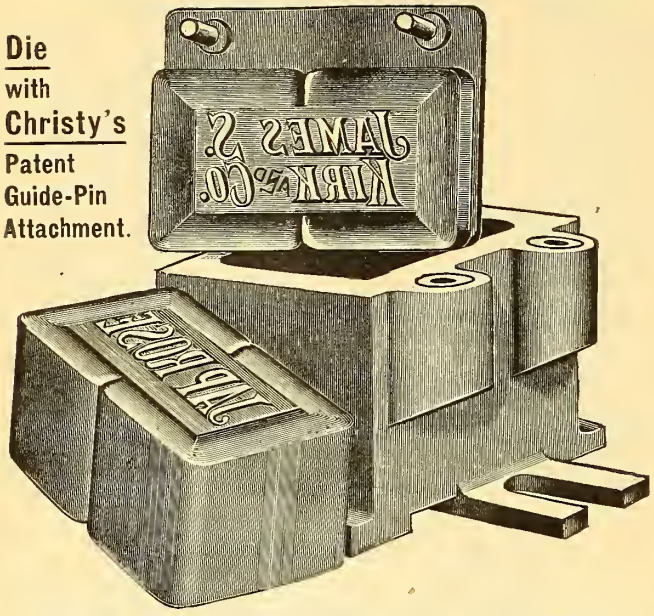


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advertisements on another page. Manufacturing firms looking for intelligent up-to-date help, or who have second-hand machinery they wish to dispose of, and practical men experienced in any branch of manufacturing chemistry looking for employment, can mutually profit by using this column.

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By a practical manufacturer of perfumes, toilet specialties, flavoring extracts, etc. Fully posted on output of goods to the consumer on premium or commission plan. Engagement with manufacturer of soaps preferred, on salary or percentage. Middle age, married, unquestioned references. Address: "MANAGER," care of American Soap Journal, Milwaukee, Wis.

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A German soap-maker, practically familiar with American soap-making and with the mechanical workings of American soap factories, and who might be desirous of returning to Europe, may find position by addressing: "Europe," care of American Soap Journal, Milwaukee, Wis. [Answers received to this advertisement will be forwarded to Europe, and correspondents must expect some weeks to pass before a reply can reach them.—Publisher.]

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A MONTHLY JOURNAL OF THE MANUFACTURING CHEMICAL INDUSTRIES.

DR. HENRY GATHMANN, PUBLISHER. 2707 North Ave, Milwaukee. **MILWAUKEE, WIS., February 1, 1903.** VOL. XIII. No. 6.

THE

AMERICAN SOAP JOURNAL

AND

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The AMERICAN SOAP JOURNAL AND MANUFACTURING CHEMIST is devoted to the interests of all manufacturing industries of a chemical character, and is an absolutely independent publication. It is the only newspaper of its kind in America and has also a large foreign circulation.

For Subscription and Advertising rates see above.

Communications on industrial subjects, news items, and any information suitable for printing in these columns, are solicited and will have due attention.

Readers in search of machinery, supplies etc., not advertised in these columns, are invited to write us and we shall endeavor to supply the information.

Address all communications to

DR. HENRY GATHMANN, Publisher,
2707 NORTH AVENUE,
MILWAUKEE, WIS., U. S. A.

There are in this issue a number of special articles, new advertisements, and changes in the familiar make-up of this paper, so that we have found it impractieal to eall attention to them separately, as we should like to do. These few lines will serve to eall special attention to all these ehanges in general, and we request our readers to go over this entire paper carefully and note all the reading matter. There are several important ehanges to be noted.

We find, not without some astonishment, that several eorrespondents take the editor of this paper to have been the writer of some articles whieh reeently appeared in this paper under the names of B. FAIR and BIVALENT. As probably other readers have fallen into the same error, we wish to state here that both writers signing as above are bona fide subscribers of this paper, eontributors in good faith, and both eminently better qualified to write on the subjeets of their artieles from personal experience than is the editor of the SOAP JOURNAL. Though feeling eomplimented by the mistake, we feel it due all parties eoneerned to state this truth, the more so sinee in this very issue we print another artiele from at least one of these contributors, and hope to print many more from both. Guess again, gentlemen.

At a hearing before the Senate Committee on Foreign Affairs in Havana, Cuba, in connection with the reciproeity treaty with the United States, representatives of various Cuban industries were heard. It was stated there that Cuban soap manufaeturers produee annually 150,000 boxes of soap. There are imported, in addition, from 50,000 to 60,000 boxes per annum, mostly from Spain.

Our Cuban friends in the business write that between the large quantity of soap imported and exeessive eompetition between home manufacturers, the business is among the least prosperous on the island.

A great deal has been written in the daily press on the evils of "substitution" praetieed by retailers. Mueh of such writings was undoubtedly inspired by interested parties and sometimes was direetly in the nature of unjust and eowardly attaeks upon retailers in general. In contradietion to the latter elass of articles the Brooklyn *Eagle* reeently published an editorial (whieh we repro-

duce on another page) which contains sound and convincing arguments setting forth the rights of the manufacturers and the several causes that lead to substitution.

We imagine soap manufacturers are less troubled by this evil than most other manufacturers. Vying with each other, as they do, in leaving the retailer most of the profit, the retailer finds less occasion to substitute one brand for another than he does in the case of goods for which the manufacturer creates a demand and then expects the retailer to handle them almost without profit. However, the article from the *Eagle* will not be without interest to our readers.

A subscriber writes us that, though we have improved the SOAP JOURNAL from time to time, our January issue was "far above any previous issue." This is a pleasant compliment, and—if we do say it ourselves—it was hard earned, for our efforts to collect useful and interesting reading matter, and to exclude everything else, have never been greater. Finding these efforts productive of results that are appreciated, we are encouraged to continue in the same way.

Another reader remarks: "Strange to say, reading your paper always suggests new ideas to me." If we were to lie awake nights for a week, we could not have thought of a more subtle compliment to the quality of the SOAP JOURNAL'S reading matter than is embodied in these few words.

The Milwaukee postoffice has ordered in one lot a large freight car full of postal cards, which means five millions of these little messengers. We are ready to admit that we are not the only users of these $50,000 worth of postal cards, but just the same the postage which we use in a month is getting to be an item to be seriously considered. To be sure, three-quarters of our postage is properly payable by us, but the other quarter really ought to be borne by those who have questions to ask and favors they want done. This is a gentle hint. It may seem a small item to waste words about, but our business is one composed almost entirely of $2 subscriptions, and after sending out a notice of subscription expiring, paying ten cents exchange on check received, and sending a receipt, our profit on a subscription can hardly stand further postage for special information asked by subscribers.

A recent writer on the scientific features of soap making in a foreign exchange makes this statement:

"Generally, it may be stated that the solubility of a soap decreases as the composition of the soap becomes more complex; therefore, a soap made from stearic acid is not so soluble as a soap made from caproic or butyric acid. Then the alkali has some influence. Potash soaps are more freely soluble than soda soaps, which is one of the reasons why potash is used solely to make soft soaps, and that soda is preferred to make hard soaps."

We, in our ignorance, had always supposed that potash just naturally makes soft soap, and soda similarly makes hard soap. Now comes the scientific writer and tells us that we use potash to make soft soap because that makes the soap more soluble, and that we prefer soda for hard soap because that makes the soap less soluble; in other words, according to this argument, if we wanted our soft soap less soluble, we would make it from soda; and if we wanted a hard soap of great solubility, why we should prefer to use potash. On the whole, the statement quoted is not a bit practical, but it is scientific. Scientists are doing some wonderful things.

Mayor John Hinkle of Columbus, Ohio, proposes, according to press dispatches, another new use for soap. He intends to raise a national fund to be used for democratic campaign purposes, by means of a brand of soap which he will place on the market and for every gross of which he says he will contribute $1.20 to this proposed fund. He is quoted as saying:

"The soap is placed on the market for the purpose of raising a campaign fund for legitimate expenses necessary in carrying on a campaign to elect a president in 1904 who is opposed to trusts and monopolies; a president who will practice what he preaches after election; a president who is in favor of public ownership of public utilities; a president who is in favor of equal taxation for all and special privileges for none; a president who is opposed to monarchies and empires; a president who is opposed to wars and extermination of liberty-loving people, whether in South Africa or elsewhere."

In political slang the use of "soap" in politics is by no means a novelty, but the proposed conversion of the real article into the allegorical soap of the politician has not been previously attempted. Still, the plan in question reminds us vividly of the time—about five years ago—when a number of soap factories offered donations to churches and charitable societies in return for wrappers collected by its members. In these cases the manufacturers simply used their schemes for advertising purposes; it would be interesting to know whether the same is not true in Mayor Hinkle's case. Is it the election of a president or the advertisement of a new brand of soap he has at heart? Perhaps it is both, and if so he is not to be blamed either.

"The soap that elected President————," will be the next catch phrase.

About The "Soap Chemist."

The philosopher "BIVALENT," whose pointed arguments in matters serious as well as humorous, have often tickled our intellectual palates, was certainly bi-valent in his comment, having agreed with me absolutely in part of his article "The Soap Chemist," and then in the most graceful manner he swings around completely, and through an easily comprehended parable proves that my assertion about the direct and indirect loss in compounding tin-crystals with soap was entirely wrong. His argument in support of "the indestructibility of matter," viz: the burning of a $5.00 bill, was most convincing and both were very enjoyable. My article in the December JOURNAL was prompted more by a desire to learn what position others would assign to "soap chemists" than to criticise anyone for what he may have said or apparently implied in referring to the soap chemist. I am obliged by Mr. Schmidt's brief expression, which was quite to the point, since it gives me the opportunity to explain why I can not agree with him, "that the chemist should not meddle with soap-making proper." This explanation will likewise partly fit as an argument against some of Mr. Nolting's expressions. Let us consider an establishment where the profit is represented by the amount of glycerine extracted from the stock; (I have reasons to believe that there are quite a number conducted on this policy). These are naturally interested to recover the greatest possible amount of glycerine. The analytical chemist can probably tell you how much glycerine is left in your soap. That is probably all you expected from your soap chemist. The soap chemist, according to my understanding, should in addition be able to state whether the amount of glycerine retained by the stock is excessive. If so, he should be able to instruct the soap boiler exactly how to proceed in order to gain the proper amount of glycerine. To be able to do this, he must know as much or more about actual soap-making as the soap boiler. If he cannot do exactly what he instructs the soap boiler to do, neither the "boss" nor the soap boiler will have any confidence in him. On the other hand, if the "boss" is competent to judge whether or not the advice is correct, then he does not require the services of a soap chemist. If his policy is to avoid all improvements that are not of his own creation, he will not get satisfaction out of an analytical chemist who will test and report on what may be presented to him, and then strictly mind his own business in his laboratory. He has no use for a "soap chemist" who is competent to instruct his soap boiler how the soap should be made.

The adoption of glycerine recovery did not call for any material deviation in the soap boiling process, further than the observation of such instructions as are furnished by the chemist who installed the glycerine plant. At the present time, propositions are offered that are of special interest. So far as I know there are two processes available to the soap manufacturer for separating the neutral fats into glycerine and fatty acids, the yield of glycerine from either of which is claimed to be greater than that obtainable in the ordinary way of separating the glycerine from spent lye. Let the chemist, who is not possessed of a practical knowledge of soap-making, suspend judgment as to the advantages or disadvantages in adopting either of these methods. If the process is a success financially, with some difficulties to be overcome by reason of the necessary modification in saponifying such stock, you may look to the practically equipped chemist to solve the problem in a satisfactory manner. If you consulted an analytical chemist on this subject, he could hardly advise you intelligently as to the merits and demerits of the scheme as compared with the ordinary process, unless he knows all about the mode of soap-making in actual practice. According to my understanding the competent analytical chemist becomes a valuable specialist, the soap chemist, after he has learned as much about actual soap-making as the expert soap boiler.

If the engineer who invented the Bessemer process had not known all about steel making, I doubt whether he would ever have been able to devise this simple and important method. It is true that many important improvements are due to chance discovery, but those based on chemical decomposition or chemical combination are usually the result of a thorough study of the subject of some competent scientist with practical knowledge of the particular art.

It appears to me that the time is near at hand when the manufacturing department of every large soap manufacturing establishment will have to be directed by a competent chemist, a soap chemist who understands all about soap-making proper, and my advice to the analytical chemist engaged in the soap factory would be that he proceed to make of himself an expert soap boiler as well and become a soap chemist.

B. FAIR.

An Answer to the Most Important Questions For Soap Manufacturers.

Editor AMERICAN SOAP JOURNAL:

What is there peculiar to the soap business that distinguishes it so painfully, in the point of prosperity, from nearly all manufactures the world over?

This question is asked in the December number, page 93, of your valuable JOURNAL. It has been answered on the first page of the same issue, where the following may be read: "A subscriber remarks, 'We get *all* specifications relating to inventions in soap as soon as patents are issued, and among our *entire* collection of these, we

have not one which will produce anything—except *hilarity,* when being read by a soap-maker.'" Here you have the explanation of what ails the soap industry, in a nut shell. If hilarity (see Webster's definition) is the sensation generally created by reading of the endeavors of inventors to improve detergents for the various purposes of cleanliness, then we need not look further for the causes which make our industry so unsatisfactory.

The fact that for about a century no material improvements in the efficiency of soaps have been generally recognized as such, so as to be generally adopted, is the real cause of the decline of soap-making. Nature teaches that nothing will remain alive for any length of time, unless *it grows;* the spreading of the soap industry noticeable all over the world is *not a healthy growth.* Growing means sending forth new branches, blossoms and fruit; what is there *new* in soaps to be found in the open markets? New names, new shapes, new packages, and perhaps new claims for excellence. New ideas are to be found in the patents issued, and these, the new ideas, are the seeds, the starting points of new developments, notwithstanding the remarks made by "A Subscriber."

Next in importance to the services rendered the public by reputable physicians and druggists and by the suppliers of pure food, come the products of progressive soap manufacturers. Why and how the thorough removal of foreign matter from our bodies, clothing and homes, so decidedly and advantageously influences health, vigor, endurance and comfort, has been shown repeatedly by the AMERICAN SOAP JOURNAL and it is needless to repeat here that "the soap used by a nation serves as a guage for its degree of civilization." The average statisticians take the *amount* of soap used as a guide, in reality it is the *quality* selected by users which gives those who know how to judge these matters, the means to draw conclusions about the personal habits, degree of refinement and general character of those who purchase the soap. Granting the importance of our profession, is it not humiliating to read remarks like the one which caused the writer to pen these lines? Would it not reflect on American soap-makers as a class, if the subject were not taken up in a similar way as the "Soap Chemist" question is being discussed in the JOURNAL? Knowing from personal observation that the AMERICAN SOAP JOURNAL is read eagerly by quite a number of foreign subscribers who are watching anxiously what progress America is making, ought not the soap manufacturers take up the suggestion offered in these pages and show the world at the coming St. Louis Fair in a collective exhibit and by means of demonstrations, how far we have advanced in the art of soap-making? We have plenty of examples how this should be done; take the show rooms of the American Can Co., in one of our large cities; you will find there assembled every thing in the shape of tin containers; the same applies equally to glassware, and some other lines. The advantages, both to purchasers and manufacturers, can easily be seen; the former find in *one* place anything they may want in this line, they can get here new ideas how to put up goods to the best advantage, and those manufacturers who have combined to promote their business interests save much money and worry, as all their correspondence, selling, shipping, collecting, etc., is done through one office.

Eventually soap manufacturers will be forced by circumstances to form similar groups. The makers of such soaps, as will collectively fill every need in the soapy line, will have to form combinations in order to make both ends meet. Besides, good, faithful, steady assistants, willing to work for a fair share of actual profits made, are getting very scarce, and such scarcity is another cause for the grouping together of such manufacturers as can co-operate together to their mutual advantage. This kind of co-operation is badly needed, not the old style of "Soap Manufacturers' Association," whose members come together and consult at what price each ought to sell cocoanut oil soap in certain packages, as was done at the Buffalo convention. One cannot well help smiling at the idea of fixing prices in an article which can be made in an almost endless variety of quality. From the finest East India Cochin oil to the poorest Copra cocoanut oil there is a wide range of value in the oil; the caustic soda also differs somewhat; the processes of manufacture, the care and skill of the soap-maker and his pay, the freshness of the goods, the more or less expensive way of selling, delivery and collecting, the risk taken in good or doubtful customers and many other items, *must* be considered in order to do a successful business. It is not sufficient to shut one's eyes to the fact that things *are* complicated, they cannot be made simpler by ignoring their true nature and the soap business *is* extremely complicated and can only be done as it should be done by dividing labor and profits on an equitable basis, and this latter can, in turn, be done only by the intelligent co-operation of people possessing the required education, facilities, natural gifts, the capital, experience and other necessities; one of these factors lacking makes failure of large enterprises certain. Should there be any manufacturers who, because they themselves make but a few brands, be in doubt how exhibitions, show and demonstration rooms would be made interesting to the public and of benefit to themselves, let them write their views to the AMERICAN SOAP JOURNAL and thus give that publication a chance to print replies from other manufacturers.

Frequent exchange of our thoughts and ideas is necessary to come to an understanding how to carry out the co-operation plan on a mutually satisfactory basis.

A. I. R.

Substitution.

Concert of action has been proposed among manufacturers and others in suppressing what may justly be called the evil of substitution in our shops. That is, the forcing upon customers of goods they do not wish, as substitutes for goods they call for. This is often a convenience to the grocer, druggist, paint dealer, or what not, as it enables him to make a small, cheap stock go further than it otherwise would. Yet, it not only thwarts the customer of his purpose, but it reflects on the most enterprising of the manufacturers. For example, if the maker of a certain chemical spends a fortune in securing the best and purest and most serviceable form of that chemical, then spends another fortune in advertising it, and a person who reads the advertisement tries to buy it in a shop, but is put off by the proprietor by something which he says is just as good, or better and cheaper, and the customer finds that the substitution is a fraud, or that it is less adequate to its purpose than the article he wanted, he may still believe the shopkeeper, and must then draw the inference that if the substitute is poor, yet is better than the article he has heard about, then the stuff he wanted to buy is worthless.

Shopkeepers are anxious to sell goods on which they can make the largest profit. The goods that promise that profit are usually shoddy, masked as honest, durable and serviceable articles. To press these on the customer is an act of dishonesty when they are offered with the assurance that they are equal to the goods that have been called for, and it is hardly a question but that a manufacturer aggrieved by such an assurance has redress at law. The concerns that make what may be called standard articles—foods, soap, medicines, materials of use in the arts, mechanical devices and implements—have reputations which they must defend by keeping up the quality of their output. Sophistication or cheapening of their product would mean ultimate discovery and the loss of their business. The small adventurer, however, who makes an imitation of an article that has been created and perfected by another at much expense and pains, has no reputation to lose, and although he may hope to build up an honest business in the future he is concerned for the present merely in creating a capital for larger operations; hence he prospers through virtual fraud, if he prospers at all.

One concern in this city announces with complacent pride that it has 226 substitutes that it urges upon people who want something else. They are all imitations of articles that cost a little more and are probably better. If the customer buys them, supposing that they are what he has asked for, he is a victim of fraud; if he accepts them unwillingly and judges the originals by the poverty of the imitation, the honest manufacturer becomes the victim of fraud. There may be goods which are just as serviceable as those which are better known; but it is certain that many of those which dealers are most keen to sell are sold for the very reason that they are not as serviceable; hence they are cheaper and offer a better profit. The practice of substitution may have originated in the economical practices of retail dealers, but it has become largely an intentional dishonesty.—*Brooklyn Eagle.*

Table of Baume Degrees.

Specific Gravities and Weight per Cubic Foot.

(Specially Contributed.)

Baume.	Sp. gr.	Weight per cu. ft.	Baume.	Sp. gr.	Weight per cu. ft.
10. °	1.0731	66.89	22.	1.1763	73.32
10.2		66.99	22.2		73.44
10.4		67.09	22.4		73.56
10.6		67.19	22 6		73.68
10.8		67.29	22.8		73.79
11.	1.0810	67.38	23.	1,1858	73.91
11.2		67.48	23 2		74.03
11.4		67.58	23.4		74.15
11.6		67.68	23.6		74.27
11.8		67.78	23.8		74.40
12.	1.0890	67.88	24.	1.1955	74.52
12.2		67.98	24.2	1.1975	74 64
12.4		68.08	24.4	1.1995	74.76
12.6		68.18	24.6		74.89
12.8		68.28	24.8		75.01
13.	1.0972	68.39	25.	1.2053	75.13
13.2		68.49	25.2	1.2073	75.25
13.4		68.59	25.4	1 2093	75.38
13.6		68.69	25.6	1.2113	75.50
13.8		68.80	25.8	1.2133	75.63
14.	1.1054	68.90	26.	1.2153	75.75
14.2	1.1071	69.00	26.2	1.2173	75.88
14.4	1.1088	69.10	26.4	1.2193	76.00
14.6	1.1105	69.21	26.6	1.2213	76.13
14.8	1.1122	69.32	26.8	1.2233	76.26
15.	1.1138	69.43	27.	1.2254	76.38
15.2		69.53	27.2	1.2277	76.51
15 4		69.63	27.4	1.2297	76.64
15.6		69.74	27.6	1.2317	76.77
15.8		69.85	27.8	1.2337	76.90
16	1.1224	69.96	28.	1.2357	77.03
16.2		70.06	28.2		77.16
16 4		70.16	28.4		77.29
16.6		70.26	28.6		77.42
16.8		70.37	28.8		77.55
17.	1.1310	70.49	29.	1.2462	77.68
17.2		70.60	29.2		77.81
17.4		70.71	29.4		77.94
17.6		70 82	29.6		78.07
17.8		70.93	29.8		78.20
18.	1.1398	71.05	30.	1.2569	78 35
18.2		71.16	30.2		78 50
18.4		71.27	30.4		78.63
18.6		71.38	30.6		78.76
18.8		71.49	30.8		78.89
19.	1.1487	71.60	31.	1.2677	79.02
19.2		71.71	31.2		79.16
19.4		71.82	31.4		79.30
19.6		71.93	31.6		79.43
19.8		72.05	31.8		79 57
20.	1.1578	72.17	32.	1 2788	79.71
20.2		72.28	32.2		79.85
20.4		72.39	32.4		79 99
20.6		72.51	32.6		80 13
20.8		72.62	32.8		80.27
21.	1.1670	72.74	33.	1.2901	80 42
21.2	1.1690	72.85	33 2		80.56
21.4	1.1710	72.97	33.4		80.70
21.6	1.1730	73.08	33 6		80.85
21.8	1.1750	73.20	33.8		80.99

Baume.	Sp. gr.	Weight per cu. ft.	Baume.	Sp gr.	Weight per cu. ft.
34.	1.3015	81.13	38.	1.3494	84.11
34.2		81.28	38.2		84.26
34.4		81.42	38.4		84.42
34.6		81.57	38.6		84.58
34.8		81.71	38.8		84.74
35.	1.3131	81.85	39.	1.3619	84.89
35.2		82.00	39.2		85 05
35.4		82.15	39.4		85.21
35.6		82.29	39.6		85.37
35.8		82.44	39.8		85.53
36.	1.3250	82.59	40.	1.3746	85.68
36.2		82.74	40.2		
36.4		82.89	40.4		
36.6		83.04	40.6		
36.8		83.19	40.8		
37.	1.3370	83.34	41.	1.3876	86.49
37.2		83.49	42.	1.4009	87 32
37.4		83.65	43.	1.4143	88.16
37.6		83.80	44.	1.4281	89.02
37.8		83.96	45.	1.4421	89.89

On Recovering Glycerine From Waste Lye.

(Extract from the Seifensieder Zeitung, Augsburg.)

The statement is frequently made that 100 lbs. of fat yield only 3 to 6 lbs. of lye glycerine, containing 80 per cent. of pure glycerine, although fresh fats contain 9-10 per cent. of glycerine; from one-half to two-thirds of the glycerine has therefore been lost in such cases. That these meagre results are facts in many instances is just as true as it is a fact that with proper care and suitable methods 8 per cent. of crude glycerine can be obtained. What then causes these considerable differences?

When we saponify 100 lbs. tallow containing 9 per cent. of glycerine, using 100 lbs. of 20 degree soda lye and open steam, we obtain about 215 lbs. of kettle contents consisting of

105 lbs. stearate and oleate of soda (pure soap),
9 lbs. glycerine, in
111 lbs. water (incl. free alkali).

On adding 8 lbs. salt to the kettle, there will separate about 160 lbs. of grained soap which consists of the 105 lbs. of pure soap and 55 lbs. of liquid (water, glycerine, about 1 lb. of salt and a little free alkali); the waste lye consists of 55 lbs. liquid (water, glycerine, about 7 lbs. salt and some free alkali).

The entire glycerine formed during saponification was contained uniformly dissolved in the 110 lbs.. of water which also held the soap in solution, and we may certainly assume that when half of the total liquid remains in the soap and half goes into the waste lye, the same is true of the glycerine; in other words 4½ lbs of glycerine will be found in the waste lye, and 4½ lbs. will be in the soap. On now running off the waste lye and again adding 55 lbs. of liquid (lye), we again have 105 lbs. of pure soap, but only 4½ lbs. glycerine in the 105½ lbs. fluid in the kettle. Graining again by salt and separating the lye, half of the glycerine still in the kettle (2¼ lbs.) again remains in the soap and 2¼ lbs. go into the waste lye. A third change yields 1⅛ lbs. in the waste lye and leaves 1⅛ lbs. still in the soap. We have thus obtained:

First change: 62 lbs. waste lye with 4½ lbs. glycerine.
Second change: 62 lbs. waste lye with 2¼ lbs. glycerine.
Third change: 62 lbs. waste lye with 1⅛ lbs. glycerine.

The total result, therefore, is 186 lbs. of lye with 7⅞ lbs. of glycerine, besides 1⅛ lbs. of glycerine still contained in 160 lbs. of soap.

The assumption that the glycerine is distributed in proportion to the water contained in the lye and the soap respectively is supported by analyses of soaps made after the second and third changes, and of the lyes. The cost of evaporation in a vacuum, by the use of waste steam, being very low, it is advisable, on the strength of the preceding considerations, to make at least two changes, whereby 6¾ lbs. of glycerine (corresponding to 8.4 per cent. of 80 per cent. crude) are obtained from 100 lbs. of fat. A third change raises the yield to 7⅞ lbs. as above stated, corresponding to 9.9 per cent. of 80 per cent. crude). Small losses, of course, occur in subsequent treatment, so that a yield of 8 and 9 per cent. of 80 per cent. crude respectively may be taken to be the actual result of two and three changes.

Analysis of Soap Lye.

The analysis of soap lye comprises the following determinations:—soap, free caustic alkali, alkaline carbonates, glycerine, sodium chloride and sodium sulphate. These form the essential constituents of this bye-product.

The free alkalies are usually determined by diluting a weighed portion of the lye with distilled water, and titrating this solution with a normal acid solution, using either phenol-phthalein, litmus tincture, or methyl orange as indicator. As regards the use of phenol-phthalein, or litmus tincture as an indicator, we would condemn these coloring matters as not being applicable for determining substances of that nature, as they in variably lead to false results; for if any solution is taken containing carbonates, say, for instance, alkaline carbonates, and titrated with normal acid solution with phenol-phthalein, or litmus tincture as indicator, and as they are affected by the carbonic acid thus liberated, normal acid solutions must be added in excess and titrated back with normal alkalies. As soap lye always contains a certain quantity of soap in solution, and an excess of normal acid solution added to the soap-lye solution divides it into its constituents, a greater quantity of acid is needed to decompose the soap and neutralize the free alkali, than would be required for the neutralizing of the alkali alone. Thus it is apparent that the result obtained in this manner would be too high.

By using methyl orange as indicator, which is known as not being effected by carbonic acid, the soap lye can be titrated directly. In this case it must be titrated when cold, as under these circumstances it is not so rapidly decomposed. For technical purposes this method is decidedly the best where immediate results are desired.

But for an absolute accurate determination this method is not applicable, since in the presence of a large quantity of organic substances, methyl orange shows a very indistinct end-reaction. Therefore the free alkali is determined in the following manner:

Place 20 c.c. of the soap lye into a 500 c.c. flask, with an excess of barium chloride solution, fill to the mark with distilled water, and after shaking the flask well, filter off 250 c. c. and titrate in an Erlenmeier flask, using phenolphthalein as indicator; by this the per cent. of free caustic alkali in volume is found; and by dividing this by the specific gravity of the lye, the per cent. in weight is obtained.

Another 50 c.c. of the soap is evaporated to dryness on a water bath by steadily conducting into the solution carbonic acid gas, and then heating to 150 deg. to 155 deg. C., to volatilize all the glycerine. The residue is brought into a suitable flask, and treated with pure, absolute alcohol. The alcoholic solution is filtered, and the filter washed out sufficiently with ether.

The residue, besides having sodium chloride and sodium sulphate, has on the filter the total free alkali which is present in the soap lye, in form of carbonate. This residue is then diluted in 500 c.c. of water, and 100 c.c. (= 10 c.c. lye) is titrated with decinormal sulphuric acid solution, using methyl orange as an indicator.

If the amount, previously determined, for free caustic alkali be calculated to carbonate, and this subtracted from the total carbonate just found, we have the actual amount of alkaline carbonates in the soap lye. It is self-evident in this case, that the result must be divided by the specific gravity of the lye, to obtain the percentage by weight.

As this calculation by means of specific gravity is axiomatic, no mention will be made of this in the next determination.

To determine the sodium chloride, neutralize 50 c.c. of the filtrate (=10 c.c. lye) with decinormal nitric acid solution. The quantity of acid to be added can be calculated from the amount of sodium carbonate previously determined, and titrate with a decinormal silver nitrate solution.

The amount of sodium sulphate is obtained by a gravimetric sulphuric acid determination, by taking another 50 c.c. of the filtered solution.

To perform the glycerine determination, acidify 25 c.c. of the lye with sulphuric acid, dilute with water, boil, add about five grammes solid paraffin to the hot solution and filter after cooling. Glycerine can be determined in the filtrate either by the permanganate method of Benedict or by Heyner's bichromatic method.

The amount of soap is calculated by determining the fatty acids, which is done by acidifying 50 c.c. of the lye with sulphuric acid, heating, extracting by a solvent for fats, etc. By titrating then the alcoholic solution of the fatty acids with a fifth normal caustic soda solution, and using phenolphthalein as indicator, the amount of combined alkali is obtained. The sum of the latter and the anhydrates of the fatty acids give the amount of dry soap in the solution.—Oil & Colourman's Journal.

Harness Dressing.

Myrtle wax	2 pounds
Beeswax	2 pounds
Tallow	2 pounds
Lamp Black	1 ounce
Castor oil	2 pints
Neatsfoot oil	1 gallon

Mix well by the aid of a gentle heat and always mix thoroughly before using. The harness should be well cleaned before applying any kind of a dressing. It is best to wash the leather with soap suds and then dry with a cloth before using the dressing.

The Era Formulary gives the following formula for—

Harness Jet.

Best glue	4 ounces
Good vinegar	1½ pints
Best gum arabic	2 ounces
Good Black Ink	½ pint
Best isinglass	2 drams

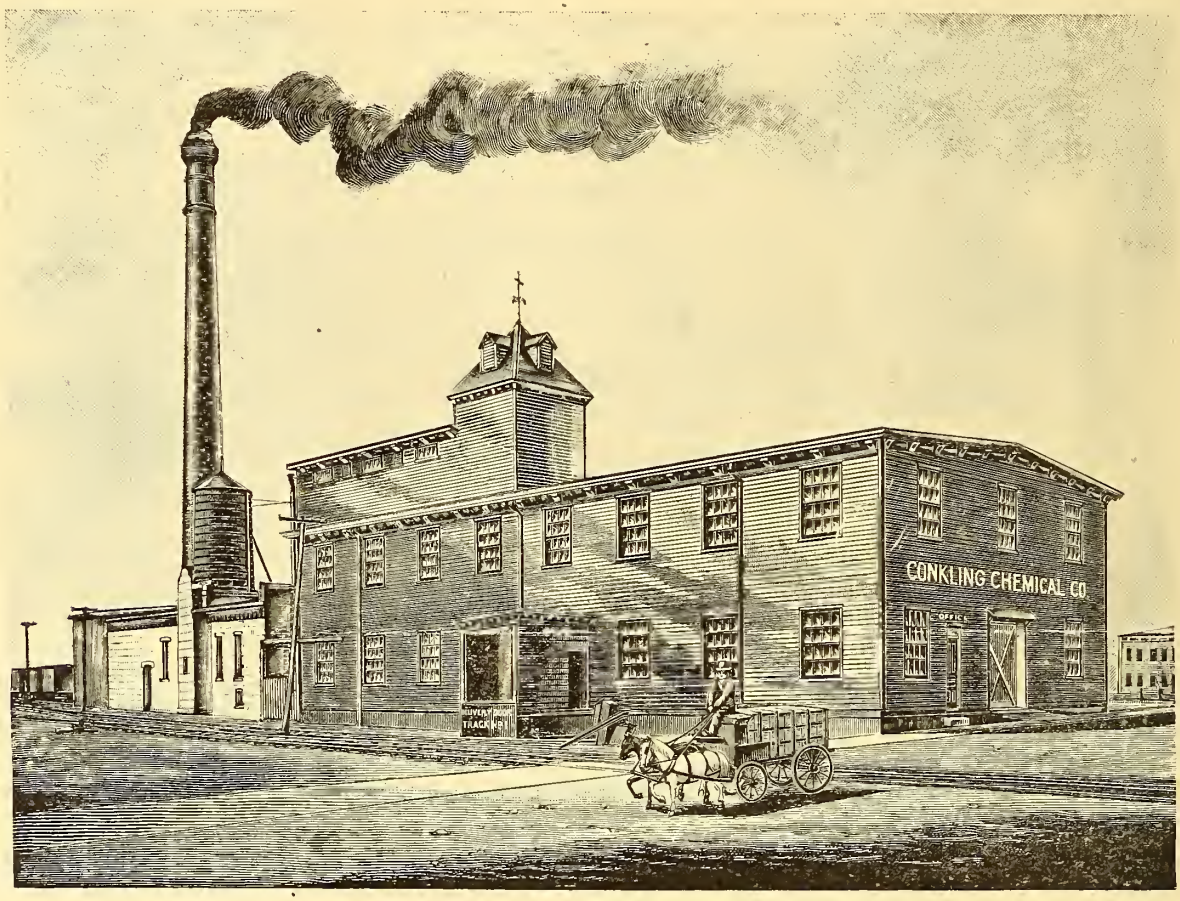
Dissolve the gum in the ink, and melt the isinglass in another vessel in as much hot water as will cover it. Having first steeped the glue in the vinegar until soft, dissolve it completely by the aid of heat, stirring to prevent burning. The heat should not exceed 180° F. Add the ink and gum and allow the mixture to again rise to the same temperature. Lastly mix the solution in isinglass, and remove from the fire. When used, a small portion must be heated until fluid, and then applied with a sponge, and allowed to dry on.

If you need sleep it is a good policy to turn trade down. To refuse to keep such popular lines, as for instance, Baby's Own Soap, because you cannot make a stated profit on it, and let people go elsewhere for their purchases. But if you need money, you need every customer you can grab, and if he asks for a certain article sell it—sell it as cheap as your neighbor. This man does not buy only one line of goods and your profit will come and your trade grow.—Canadian Advertisement.

AMONG THE SOAP FACTORIES.

No. 5, *The* Conklin Chemical Co., Chicago.

Taking up, for a change, one of the younger soap factories for description this month, we illustrate herewith the works of the Conklin Chemical Co. of Chicago. The property occupies 300x1,000 feet, at Ninety-sixth street and Erie avenue, South Chicago, located adjacent to the tracks of the Baltimore & Ohio, Lake Shore & Michigan Southern, Illinois Central, Pennsylvania and the numerous other railroads that reach South Chicago, a spur of the Pennsylvania road running into their yard and another along side their soap factory and warehouse.



The building is 50x100, two stories in height; a power house 30x75 and a warehouse 40x70, and is excellently located for manufacturing and shipping purposes.

The president of the company is Allen Conklin and the soapmaker is Fred Stansbury, who has seen service in soap making in many parts of the United States and South America.

The factory holds two kettles of 85,000 lbs. capacity each, with other machinery to match. One of the features on which Mr. Conklin prides himself is composed of the drying chambers of his own design. There are two of these, each 25 feet in length, 6 feet in width and 5 feet high, one being above the other. They are built entirely of metal. The soap chips fall from the chipping disc onto a metal apron elevator which carries them upward, (and as the apron passes over the upper bend the chips fall on a similar apron at the top of the dry room), turns downward a few inches, then returns to the front end, and thus travels from end to end until it reaches the bottom at the further end, where the chips fall from it, pass through a chute in the floor to a barrel below. The passage through the dry room consumes thirty minutes. An artesian well on the premises furnishes the water required for the factory. The particular specialty of this firm is soap for laundries in bar and chip form.

Almond Oil and Its Substitutes.

By W. C. Allen and E. T. Brewis, F. I. C.

In speaking of almond oil we have to remember at the outset that almonds are produced in many countries, and, although most of those that reach our market are shipped from a zone falling between the 30th and 45th parallels of north latitude that might be broadly described as "Southern Europe and countries adjacent," we have within that limit to deal with fruit produced under varying conditions both of climate and soil. This is evident when we glance at the different countries from which we get our principal supplies, viz., Morocco, Canary Islands, Portugal, Spain, France, Italy, Sicily, Syria, and Persia.

Moller, in his "Lehrbuch der Pharmacognosie," states that approximately "Almonds contain 50 per cent. of fatty oil, 23 per cent. albuminous bodies, 6 per cent. sugar, and 3 per cent. gum. Starch is absent. Bitter almonds contain, in addition, 3 per cent. of a crystallisable glucoside amygialin, which, in the presence of water, is acted upon by the emulsion and is decomposed into hydrocyanic acid, sugar, and volatile oil of bitter almonds."

The above percentage of fatty oil appears to be considerably exaggerated—the estimate of Schaedler (45 per cent. from sweet and 38 per cent. from bitter) being much more in accordance with practical experience.

In a company of pharmacists, it is hardly necessary to recall the fact that the "almond oil" of commerce is almost entirely obtained by the expression of bitter almonds in powerful hydraulic presses. The expressed oils from "sweets" and "bitters" do not differ from each other in any material degree (compare Valencia sweets and Sicily bitters), whilst the additional product, essential oil of almonds, obtained by distillation of the "press cake" from the latter, enables the manufacturer to supply almond oil at a price that would not be possible were really "sweet almonds" alone used.

Morocco, or as they are more commonly known, "Barbary" bitters, at any rate those from the port of Mogador, are always more or less mixed with sweets. The exports from the more northerly ports, viz., Saffi, Mazagan, and ocasionally Rhabat, appear less open to this objection, though a slight admixture is usually met with. The supplies from Sicily are not only of larger growth, but are prepared for the market in a superior manner, being cleaner and more thoroughly sorted into their respective classes "sweet" and "bitter." Thus, here again we must note a difference even in bitter almonds, and whilst our suggested masticator would find even the ordinary Mogador "sweet" almonds bitter, if, on the other hand, he had got hold of true Sicilian bitters, his language might not bear a "qualitative analysis." The imported production of the Canary Islands holds a somewhat intermediate place between that of Morocco and Sicily, whilst French Syrian and Persian may be said practically to resemble the Sicilian almonds as regards the quality o f the oil they produce. In view, therefore, of these differing sources of supply, we cannot expect absolute uniformity in results upon the examination of the various oils, more especially by color re-actions. Fortunately, these differences are but slight, and in no case do they reach a limit that would cause difficulty in distinguishing a genuine almond oil from one containing any of the ordinary adulterants.

The British Pharmacopœia, 1898, states that almond oil does not congeal until nearly 20°C. The German merely says that "it remains clear at 10°C.," whilst the U.S.P., with its usual thoroughness, combines the two statements. The lower limit appears to be reasonable, and conforms to our experience. All three authorities unite in giving the nitric acid tests, while the German and the United States stipulate in addition a test dependent upon the melting point and solubility of the free fatty acids.

The nitric acid test has replaced that given by Bieber who was the first, we believe, to draw attention to the means of discriminating between almond and the so-called "peach kernel oil." We owe such to his investigations, which brought to the knowledge of the trade how extensively the cheaper oil was being sold as "almond oil," or used to make the true "Oleum amygdalæ dulc." become like the product of "the widow's cruse." Although this re-agent is now apt to be considered obsolete, in favor of the nitric acid test, and rightly so, we think it is interesting to note that when comparative tests are made by the two methods, on a series of oils, some of the differing characteristics of individual samples are brought out more clearly by the Bieber test; all this is more especially noticeable after the lapse of some hours. We may, however, add that we find that the proportions one to four rather than one to five present advantages in actual working.

Maben's results using nitric acid, *e.g.*, 1.42, differ from those of other observers, and have repeatedly been quoted by authors who seem to have overlooked his explanation that the oils upon which he experimented were not those usually met with in English commerce.

Later, Micko (Analyst 1893, p. 149) pointed out that the peach blossoms colour ascribed by Bieber to peach kernel oil was really due to the oil from apricot kernels.

No reference to the chemical reactions of almond and kernel oils would be complete without mention of the helpful researches of Mr. J. C. Umney, who has done so much in aid of scientific production in British manufacturing pharmacy.

Since light has been thrown upon this question, we believe that adulteration of almond oil is comparatively rare. It is substitution rather than adulteration that is the practical question of the day. At the present time this question has become acute; the damage done to growing crops of almonds by the unseasonable frosts in the spring of last year and this, which has in turn affected the price of the oil. The temptation to substitution is therefore considerable.

Of such substitutes, peach or apricot kernel oils, above alluded to, stand foremost; they are, indeed, the only ones that need serious discussion and we may here state that though it is interesting from a scientific point of view to trace the difference between oil from peach kernels and that from the kernels of apricots for all practical purposes, we may take the two as interchangeable. Shipments, although now consisting chiefly of apricot kernels containing occasional packages of peach in the past have been known to the trade as "peach kernels," and it was this that originally guided us to use what then appeared to be the correct title for the products, *Oleum Amygdalæ Persicæ,* from *Amygdalus Persica,* the peach, and not, as some of our friends have freely translated it "Persian almond oil." This oil, now so largely produced at home under its distinctive name, yet constantly described from abroad as "almond oil," has a good deal of resemblance to its namesake. It is slightly more limpid and possesses a more nutty flavor than the true almond oil, the rich, bland, soft taste of which can be recognized by an expert.

These kernel oils have not the same keeping quality as the oil for which they are substituted, and this, together with their greater limpidity, has been the cause of various troubles, where they had been unwittingly used in place of almond oil. The red colour reaction of apricot as compared with the yellowish white of almond is characteristic and sharply marks a distinction between the two.

In recent years we have met with many cases of undoubted adulteration, and within the last 12 months have noticed this to a very marked extent. Out of at least seven representative samples of foreign obtained from different parts of the country, one only could be recognized as an unsophisticated kernel oil. The principal adulterants to be looked for are oils of cotton seed, sesame, poppy, olive and araohis. But this is a branch of the subject with which we have no practical experience, and have found some difficulty in obtaining reliable information. We have, however, seen certain specimens which had nothing in common with "almond oil," whose name they bore, or of the kernel oil so often used as a substitute.

In conclusion whilst we belive that almond oil will always be *facile princeps* amongst fixed oils, we see no reason why the true peach or apricot kernel oils should not continue to find a useful place where they are suited to any particular manufacture, and we should certainly protest against any substitution of the one for the other without the knowledge of the purchaser.

Eucalyptus Oil.

The eucalyptus tree is of great importance, not only for its most valuable essential oil, but as a forest tree, and as a sanifier of malarious districts. It is indigenous to Tasmania and the east of Australia. It was first observed by an European in 1792, when Labillardiere saw it in Tasmania. In Australia the eucalyptus forms vast evergreen forests, and some specimens attain a height of 100 yards. It may be said in general that the eucalyptus can accomodate itself to any soil, and grows equally well on the tops or the arid slopes of mountains and in damp valleys. The aspect of the fully-grown tree depends largely upon circumstances. When young it always presents a pyriform mass, but on reaching a certain age it may either branch out widely from a very short trunk, or may rise to a great height without any branches at all. Wherever it may be it is always in a state of sap.

In the South of France it flowers at all seasons, and remains green throughout the year, as in Australia. It has a balsamic odor, more agreeable than that of turpentine, and resulting from a volatile oil contained in great abundance in the leaves. Sown in the spring, the eucalyptus reaches a height of several yards in the next summer, so rapid is the growth of the plant. At Cannes seedlings in favorable places reach a height of 20 feet by the December of the year following that in which they were planted. The increase in height is equally rapid during the third year, but then it lessens as the trunk thickens. Trees eight to ten years old have a mean height of about 60 feet, and a diameter of about 14 inches at 18 inches above the ground. These results are gathered from measurements made in the Maritime Alps.

In the South of France, the cultivation of the eucalyptus, which grows well wherever the winters are not too severe, has spread rapidly, although attempts to grow the tree in and around Paris have failed. In the South of France, as well as in Corsica, Algeria, Spain and Italy, eucalyptus growing is very remunerative, as eucalyptus forests attain in twentyfive to thirty years a development which it takes an ordinary forest five times as long to reach.

The absorbent properties of the eucalyptus, and the aromatic emanations which it sheds around it, explains its wholesome influence in marshy districts. It absorbs the humidity of the soil and fills the atmosphere with antiseptic vapors, the effect of which has been practi-

cally tested with striking results. Hence, wherever the eucalyptus grows wild the climate is salubrious, even if it was not so originally, and travellers attribute the healthy character of the Australian climate to the wide diffusion of the eucalyptus over that immense island. In Africa whole districts have been redeemed from malaria by planting them with eucalyptus, and at the same time converted into plantations of great commercial value.

Eucalyptus wood, in spite of its rapid growth, is very hard, as hard as teak. Exposed to the air it gradually becomes still harder. The resins in it coagulate, and besides imparting greater cohesion to the fibres, preserve the wood from decaying, and make it resistant to the attacks of damp and insects. When young it is very pliable and elastic. The wood is used in Australia for shipbuilding. Beams of it can be had 200 feet long, and many quays and other harbor works have been executed with it.

In Europe, eucalyptus wood has found few really industrial uses. Its employment for naval construction, furniture, and carriage building is not extensive, for all that oak costs 11 francs, where eucalyptus can be had for 2½ francs.

It was at one time thonght that a great field would exist for eucalyptus for making railway sleepers, but like most hard exotic woods, the eucalyptus splits up in time concentric rings like the joints of a telescope. I t is therefore altogether unsuitable for sleepers in spite of the durabilty of the actual fibre.

The leaves of the tree are used both in pharmacy and for the preparation of eucalyptol, as the essence is called. Eucalyptus globulus bears leaves of two distinct forms. Those on the young twigs are opposite, sessile, widely oval, and shortly acuminate at the apex. The margins are entire and bent downwards, so as to form a narrow projecting border. They may reach a length of 6 inches, with half that width. Young, they are of a pale green with bluish marks, but as they get older, they assume a yellowish green color, and become thick and leathery. The midrib gives rise to secondary veins which turn aside just before reaching the margin, and thus form a sort of parallel line to the latter, as in the tea-leaf. The under side of the leaf is covered with a multitude of glands, and the fresh leaf is covered with a whitish exudation from them which is very noticeable.

The second type of leaf is that arising from the older branches. These are alternate instead of opposite, and have long stalks instead of being sessile. Their shape is lanceolate, from 6 to 8 inches long by 2 in greatest width. The stalk is flattened and frequently twisted. These leaves are coriaceous, and the surface is of a yellowish green dotted all over with the glands embedded in the parenchymatous tissue. The line parallel to the edge of the leaf is distinctly formed.

Eucalyptus leaves have a powerful balsamic odor, specially noticeable when they are rubbed between the fingers. Their taste is aromatic, resinous, and somewhat bitter and hot, but is succeeded by a fresh and agreeable after-taste. When distilled they give a very fluid volatile oil, almost without color, and having a strong aromatic odor recalling that of camphor and, also that of lavender. Cloez, investigating the essence in 1870, found that the percentage of essence yielded by the leaves varied from 3 to 15 per cent., according to the kind of leaf, and whether is was fresh or dried. The essence begins to boil at about 170 deg. C., and half of it passes over at 175 deg. The distillate rectified over carbonate of potash and calcium chloride gives a very fluid colorless liquid boiling uniformly at 175 deg., and being a definite chemical compound of the formula $C_{24}H_{30}O_5$. This is encalyptol, and in many of its properties it closely resembles camphor. With pentoxide of phosphorous it give a hydrocarbon $C_{12}H_{18}$, called eucalyptene. Voiry, in 1888, prepared pure eucalyptol by repeatedly cooling the essence to 5 deg. C., and making the eucalyptol crystallize out. The density of eucalyptol is 94 at zero, which is its freezing point. Voiry obtained from it th formula $C_{20}H_{18}O_2$ and according to Faust and Homeyer, Cloez's eucalyptol is a mixture of terebinthene and cymene resinified by the action of atmospheric oxygen. At the present time pnre eucalyptol is prepared by passing gaseous hydrochloric acid into the cooled crude essence. A crystalline magma is formed, which is pressed, dried, decomposed with water, and rectified. The result is a powerful antiseptic, active even when diluted to $^1/_6$ per cent. Besides the essence the eucalyptus leaves contain tannin and gallic acid, cerylic alcohol, and pyrocateehine.

There is another essence called Australian essence. This is the product of eucalyptus amydaglina, a species which grows in New South Wales, Victoria, and Tasmania, where it is known as Peppermint tree or White gum. It is very rich in essential oil of a very fluid consisteney and a pale yellow color. Its odor resembles that of lemon, and its taste, at first refreshing leaves a following sensation of bitter. According to Schimmel this essence differs from the other in only containing traces of oxidized substances. It consists chiefly of terpene (CH), but contains a small quantity of eucalyptol.—*Journal de la Parfumerie et Savonnere Francaises.*

Naval Specifications for Soap, Etc.

By request we reprint herewith the specifications in force in the United States Navy Department concerning soap, glycerine and rosin:

Soap (laundry).—Must not contain more than 25 per cent. of rosin, not more than ½ per cent. of free alkali (NaOH), not more than ½ per cent. of free car-

bonated alkali (Na_2CO_3), and not more than 28 per cent. of water, the balance to be a strictly neutral hard tallow soap.

Soap (toilet).—To be milled, neutral, soda soap, made from clean, wholesome fat, and as free as possible from water, rosin, and mineral, starchy or foreign material. Analysis must show not more than three-tenths of 1 per cent. of mineral matter, three-tenths of 1 per cent. of carbonated alkali, calculated as carbonate of soda (Na_2CO_3), one-half of a per cent. uncombined alkali, calculated as caustic soda (Na OH), one per cent. common salt, or 14 per cent. of water. A cylinder of soap, seven-eighths of an inch in diameter and 1 inch high, cut from a cake, must sustain a weight of 1 pound for five minutes without crushing or compressing more than one-sixteenth of an inch. Soap will be rejected if made so largely of cocoanut oil, palm oil, or other fat of characteristic smell that the peculiar odor remains on the hands after using. To be perfumed with the characteristic odor of lavender, perfume to add not more than 5 cents per pound to the cost of the soap.

Cakes to be oval, to weigh about 4 ounces; color, light brown. Each cake to be wrapped in soft paper; to be packed in neat paper boxes, three cakes to a box.

The soap will be bought by the pound.

For inspection, one cake taken at random will be examined, and the lot will be accepted or rejected on this sample cake.

The weight of the soap to be paid for will be determined by the amount of combined alkali or its equivalent in the lot; this to be found by multiplying the weight in grains of combined alkali in the sample cake by the number of cakes, then dividing this product by 630, the number of grains of combined alkali assumed as a standard pound of soap.

Glycerine.—Must be chemically pure and colorless; must have a specific gravity between 29.7 deg. Baume and 30 deg Baume (1.253—1.257) at 60 deg. F., and must be free from fatty acids, metallic impurities, or any adulterations.

Rosin.—1. For all ordinary purposes rosin shall consist of equal portions of grades "C," "D" and "E," known as "good strained rosin," "C" being the poorest quality, "E" the best of the three."

The Position of Olive Oil Foots.

The foreign markets for olive oil foots are considerably stronger than at the opening of last season's crop, one year ago, the price to-day being about 25 per cent. higher. The American market is, perhaps, more independently situated than the foreign.

A rise in price of olive oil foots induces consumption of some cheaper material, of which there are available substitutes here, but not abroad. The American consumption the past season was very heavy, and while the higher prices are likely to check consumption the coming season, there still will be a good-sized demand, as for certain grades of textile soaps olive oil foots must be used to a considerable extent.

The advance in price is primarily based on a shortage of the olive crop, and it has been conservatively estimated that the quantity available for export during 1903 is less than one-third of what it was for the season just closed. But buyers seem to think that "crop shortages" are too often used only as a means of advancing prices without having any serious foundation. Investigation seems to show that the above estimate is held by many of those in position to know, and is regarded as well founded. This investigation has brought to light many facts of interest to the American consumer, as showing to some extent the changes which have taken place abroad, in view of the importance of the American outlet. For many years this market had been regarded as the only relief against an accumulation of stocks. Sales, therefore, were made here at lower prices than in the foreign markets, and the American buyer enjoyed the usual advantage of such conditions. A change in this respect has apparently culminated with this season, for the growing consumption in Italy of olive oil foots has finally turned the home market, which heretofore was insignificant, into a very important factor, and there is no longer necessity for unloading stocks here. There is further evidence to show that the large Italian emigration to foreign countries has caused a demand which never before existed, and has opened up more new markets. Importers this season find that offerings are comparatively scarce, which is an unusual condition. A combination of all these circumstances accounts for the advance in prices, and seems to foreshadow a hardening market—Oil, Paint and Drug Reporter.

Cocoanut Oil Industry in Sulu Land.

One of the strangest conditions under which our correspondent discovered oils in process of manufacture was on the Sulu Archipelago in the Southern Pacific. Here the natives handle the products of the vast cocoanut groves of the country in a way that promises rich returns for oils, copra, etc., in the future. The resulting oils are not only utilized in the making of illuminating and lubricating stuffs, but are exported to Spain, Japan, and even America, for manufacture into candle stuffs, soaps, waxes for matches, etc. These materials are likewise manufactured in the Philippines. In addition to the oils secured from the coaconut growths by the inhabitants of the Sulu Archipelago, are a few oil wells in operation from which a limited quantity of illumi-

nating oil is secured annually. If this oil product of the soil were properly developed there is no doubt that in a short while the wells would be as productive as the wells in Cebu. The Cebu wells promise success with improved apparatus. The Sulu wells are worked entirely by the crude hand devices of the natives, and considerable time and energy are expended in obtaining a little of the oil. There are one or two oil springs in working order in the hills, from which the natives secure a little oil at times, but lack of proper refining devices prevents the general introduction of the industry. The natives do not understand either the art of correct refining or how to put up the oils for the markets. They run it into cocoanut shells and it evaporates quickly. Then these natives get fats, waxes, etc., from the various saps of trees and by crushing in mortars or rolls some singular formations of minerals and herbs which are unknown, I believe, to the world of science. I showed samples of the mineral stuffs and sections of the sap-producing trees, also specimens of certain oil-producing leaves and herbs, to experts here, who make a business of assaying for the miners, and who have studied oils and chemicals, and these assayists have informed me that these barks, minerals containing oils, herbs and kindred products of the soil are new to them.

All through Jolo, Zamboanago, Cottobatto, Parang, Cebue and other commercial and industrial centers in these portions of the new possessions of America in the Southern Pacific, I found evidences of progress along the lines of oils as procured from the cocoanut, tree saps, juices crushed from plant-life and the like.

Wherever one visits in the sections of the Sulu group he finds evidences of the manufacture and sale of oils from the cocoanut and other tropical growths. The supplies of cocoanuts, barks, herbs, minerals and kindred products from which the natives get oils of some sort are brought into the central stations on the heads of men, women and children, on pack animals, and sometimes on the crude carts of the natives. First, the native train from the interior has to pass through the garrisoned portion of the town, where the required passes are shown to the sentries of the United States military, and the natives then pass on to the market in the town or to the manufactories. In the working up of the cocoanut into marketable form the fruit is first assorted by native women, as this is light work. The women crack each shell of the nut until it opens, exposing the white fruit within. Then the half shell is grasped in the hands and the interior fruit scraped by working the fruit over and over on the edge of a sharp stone, piece of wood or metal, properly set for this operation. The granulated white scrapings may be seen falling to the mat below. Then this prepared fruit is spread for drying in the sun on mats and copra results. Sometimes the stock is sweetened with native sugar. If oil is required the stuff is pressed between rolls or in presses or pounded in hollowed stones or wood pieces, until the oil is gotten out. After the oil is removed the remaining stock is used for copra as well as when the oil is left in.

The oil and copra markets in this part of the world are curious affairs. There are no sides to the building. There is a big nipa roof set up on poles, and under this roof squat the venders in oils and the products of the cocoanut. Likewise the makers of oils from the cocoanut and the herbs and barks of the country may be seen here operating their crude contrivances. There are native police stationed about the market place to preserve order, and these fellows carry knives, spears or shotguns.

There is not much money in the Sulu oil industry for the natives the way that the native manages things, as may be judged by the character of the houses occupied by these people. Their homes are mere shacks with one room, and the entire family lives here. The device for making the oils is often in the same room. There are pigs and chickens about. Here the father and mother and grown children work several hours per day, turning out an oil or copra product that brings in only a few cents to them, but which is of considerable value in the foreign markets at Manila or Iloilo. The natives know only the local price. The men engaged in buying this oil, copra and fatty mixtures from the natives are the ones who turn the money. They buy very cheaply, and often by exchanging very inferior Spanish cloths, lamps, tinware, trinkets and the like for the products. I have seen 10-cent articles buy several dollars worth of good oil or copra from the natives.

Oil of all descriptions is carried back and forth here in the Sulu land very much as it is conveyed in the islands further north. Bamboo tubes and tins of all kinds are used. Kerosene oil cans imported here, with Russian illuminating oils, are popular for native oil conveying, these cans being balanced one at each end of a pole placed upon the shoulder of a native. The native water craft carries oil and copra from the point of production up north to the stations, where the middlemen buy it for exporting to other countries. The prices on the oil begin to jump at this stage. In all of these towns and hamlets one may see natives trotting in and about the shacks with the inevitable bundle of cocoanuts attached poles thrown on the shoulder or tied up, bunch fashion, and carried on the head.

Some of the oils and fats obtained from the cocoanut or the gums of native trees or minerals are procured in in process of burning under pans or flat stones, on which fats were being treated for the purpose of obtaining the oils. There are certain herbs which the natives get in the jungle which are pressed for the juices, and these juices have to be fried, as it were, before the oily substances are in proper order for extraction. Because of these very strange customs of getting oils from products

the oil industry of Sulu is interesting and amusing. Millions of ants and kindred pests infest the oil devices, the oils and the surroundings, and whether the oils are for burning, illuminating, eating or what not, the ants that get in the way are crushed in with the material and become part of the oil. Oil cakes for purposes of eating are known to contain much insect matter, but this does not affect the sale of the greasy stuff.

A few Americans (usually discharged soldiers), some British and quite a number of Chinese are undertaking to engage in the oil business here. These parties go at it on a better scale than that of the natives.

At one place the men had erected a substantial sawed-lumber building and fitted it up with a few crude devices for crushing and refining purposes. Some tanks were used. Acids were in use for purifying purposes, but nearly all of the work is done by native help. I happened to arrive at one of these places on a pay day. The natives were receiving from one to two dollars gold each person for the week's work. This money they immediately proceeded to gamble with until they lost practically all. I am inclined to believe that some day there will be oil mills of modern design in this part of the new United States territory, and that these will find an exceedingly rich growth of never ending products, of cocoanuts, herbs, tree gums, etc., from which to make oil with very inexpensive native labor. This oil can be exported at profitable prices.—Oil, Paint & Drug Reporter.

Use of Perfume.

The woman who has never tried a spraying of some delicate toilet water after an exhausting day of business, shopping, calling, study, or brain work, or the multiplicity of domestic duties has not learned its value in toning up the nerves. There are actual medicinal properties in a well-prepared toilet—essence of violet, orange flowers, orchid, vervcine, or sweet lavender—whether applied to the body or diffused by an atomizer through the room. The virtue of perfume as a purifier, scientists say, is not sufficiently recognized in Western countries. In the East it is perfectly understood, and its lavish use is less as a luxury than as a safeguard to health.

It is an established fact that persons who work on the flower farms and in the perfumery laboratories of Grasse, Nice, Bulgaria, and the spice-growing isles of the Orient are remarkably healthy.

Aside from its healthfulness there is a certain suggestion of personal daintiness in the discreet use of delicate perfumes. In no way can the fragrance be so subtly indicated as by the toilet waters, which leave only a hint of their use. A distinct floral essence on a handkerchief is not now considered good form, but the faint odor that floats from the clothing through the gentle ministry of "sachets" is regarded as eminently desirable.

The fondness for violets increases with time, and many women of fashion will tolerate no other fragrance. Even in this one flower, however, there is infinite variety. There are violet orris, wood violet, Napoleon violet, Yankee violet, violette superba, ideal violet, extreme violet, San Remo violet, etc., all of which are exquisitely delicate. They come in the varied forms of toilet water, extracts, creams, powders, soaps, dentrifice, and sachets.

Of the sachet odors, all the violets are favorites, and heliotrope, white rose, sweet orchid and sandalwood are to be had in "done up" envelopes, or in jars, by the ounce or pound, to distribute in silken bags, layers of cotton, flannel or cheesecloth. China silk padded with any sweet sachet powder and tucked into chiffoniere or bureau drawers or trunk compartments imparts a faint, delicious fragrance to every article in the receptacle.

There is a perfumed flannel, a novelty recently introduced, that may be sewed into dress-waists, skirts, hats, etc., or placed in wardrobes, armoires and all manner of receptacles for wearing apparel or bed-linen.

Sweet-scented tablets are concentrated perfumes in compressed forms, and are at once convenient and lasting, and perfume everything they come in contact with. Oriental perfumes have reached almost the distinction of a fad. Sandalwood, Oriental orris, Japanese, Persian and Egyptian perfumes and "beautifying specialties" are among these favorites, and come in curious little silken bags, sealed packages and quaint little bottles of crystal, gold, silver and ivory.—"The Montreal Pharmaceutical Journal."

Metal Polishes.

Some metallic articles have a brilliant lustre, and owe any beauty they may possess to this lustre. In order to preserve it the articles are frequently lacquered; but by wear the lacquer comes off, and then exposure to air causes the metal to become tarnished, and to restore the lustre the article is polished. The best lustre is produced by friction, but this may be assisted by the use of polishing soaps, polishing pomades, polishing powders, polishing rags, and such like, of which there are many makers; and for each of these polishing compounds various formulæ have been published. The active constituent of many of these is generally chalk, rouge, or tripoli because these produce a polish on metallic surfaces, while some oil is frequently added as a medium for carrying them, and also some acid body to assist in cleaning the metal.

The following recipes give good polishing soaps:

1. 20 to 25 lbs. liquid curd soap are intimately mixed with about 30 lbs. of fine chalk and ½ lb. Venetian red.

2. 26 lbs. liquid cocoanut-oil soap are mixed with 12 lbs. tripoli and 1 lb. each of alum, tartaric acid, and white lead.

3. 25 lbs. melted cocoanut oil are saponified with 12 lbs. soda lye of 38 to 40 deg. B., after which 3 lbs. rouge, 3 lbs. water, and 2 ozs. ammonia are crutched in.

Polishing soaps are generally cut into cakes, and stamped or pressed, and brought into commerce with directions for use. The directions generally state a small quantity of the soap is put on the metallic article to be polished with a damp flannel, and rubbed until the desired polish is obtained.

Good recipes for polishing pastes are the following:

1. 5 lbs. lard or yellow vaseline are melted and mixed with 1 lb. fine rouge.

2. 2 lbs. palm oil and 2 lbs. vaseline are melted together, and then 1 lb. rouge, ½ lb. tripoli, and 1 oz. oxalic acid are stirred in.

3. 4 bs. vaseline, 2 lbs. oleic acid, and 1 lb. tripoli, and sufficient kieselguhr are mixed together to form a paste of suitable consistence.

4. 4 lbs. vaseline and 1 lb. lard are melted and mixed with 1 lb. rouge.

The polishing pomades are generally perfumed with essence of mirbane, and filled into tin boxes.

Polishing powders are advantageously prepared according to the following recipes:

1. 4 lbs. magnesium carbonate, 4 lbs. chalk, and 4 lbs. rouge are intimately mixed.

2. 4 lbs. magnesium carbonate are mixed with ¼ lb. fine rouge.

3. 5 lbs. fine levigated whiting and 2 lbs. Venetian red are ground together.

Analysis of Bone Grease.

I. Humidity.—According to the methods adopted the temperature of desiccation varies from 100 to 130 deg. C.; but if the latter limit is approached, the results are likely to be too elevated by reason of the presence of volatile bodies. It is therefore preferable to fix the temperature of desiccation at 100 to 110 deg. C. As to the duration of the desiccation, it is extremely variable. If a loss of one to two milligrams an hour is not considered as affecting the constancy of weight too much, the duration of the desiccation will be from three to four hours for 0.5 gram of the substance; in the case of suet of good quality. But for the fat of bones containing lime, at least 24 hours must be calculated for before arriving at a uniform weight.

In all that concerns bone fats, the Tate method has yielded very poor results.

If the fat only contains lime, the dessication may be accelerated by heating in a current of carbonic acid.

II. Foreign Matters.—These comprise organic impurities, sand, lime, phosphate and calcareous soaps. The latter are dissolved more or less by the usual solvents, but this solubility is always irregular and depends on the reagent employed, on the temperature, on the duration of the extraction and on the proportion of water in the substance analyzed. At the beginning the solution is complete, but on standing, a portion of the redissolved matters are reprecipitated, and this reprecipitation is the greater in proportion as the repose is more prolonged, and as the substance contains a larger amount of water. If petroleum ether, boiling at 85 deg. C., is employed, and if the fat is perfectly dried, almost the entire amount of calcareous soaps remain in solution. These calcareous substances may or may not be considered as foreign matters, according to their proportion, and according to the use for which the fat is designed. They may always be considered as detrimental in the manufacture of soft soaps by the direct method.

III. Ash.—This should be estimated on complete combustion of the original substance and not on the residue of the extract. It consists principally of lime in some form. The latter proceeding almost wholly from calcareous soaps, the caustic lime may be determined by a simple titration of these soaps, adopting 260 as molecular weight of the combined fatty acids.

The estimation of sand and of lime phosphate would require a complete analysis of the ash, which is seldom made.

IV. Direct Determination of Fat Properly So-called.—This is often estimated simply by difference, a course leading to absolutely erroneous results. The following is the method we have adopted:—

Ten grams of fat are heated for an hour with three to five drops of concentrated chlorhydric acid, while shaking the mixture frequently, so as to decompose all the calcareous soaps. The fat is then dissolved by agitation with 40 cubic centimeters of light petroleum ether. The etherized solution is decanted and filtered. The residue and the acid liquor are washed with petroleum ether, and added to the first extraction liquid. The whole is distilled and the residue dried at 100 to 110 deg. C. in a current of carbonic acid. The foreign matters are estimated by eliminating the residue of the extraction on the same filter and weighing it after desiccation.

V. Unsaponifiable Matters.—Results differ, according as the Allen & Thomson method or that of Morawsky & Demsky is adopted. By the latter, the extraction of cholesterine is incomplete. In each case the unsaponifiable matter has an acid reaction, in consequence of the presence of acid soaps, which have passed in the extraction. As these soaps are soluble in bezene and

petroleum ether, the unsaponifiable matter should be neutralized by caustic soda before treatment with these solvents. To remedy the disadvantages of the two methods we propose the following modification:

Five grams of the fat are evaporated dry with 25 cubic centimeters of an 8 per cent. alcoholic solution of caustic soda. This is taken up with 80 cubic centimeters of water and drawn off three times with 80 cubic centimeters of ether in a decantation funnel. A little alcohol is added, as necessary to separate the two layers. The extract is concentrated, the residue is rendered alkaline by normal caustic soda, then dissolved in petroleum ether. The filtered solution yields by evaporation an unsaponifiable residue perfectly free from ash.

VI. Point of Solidification of Fatty Acids.—This is determined by the Dalican method.—Chemische Revue.

Practical Hints For Perfumers and Soap-Makers.

"The perfumery business constitutes not merely a branch of industry, but it is an art, and whoever enters it seriously devotes himself to art." Thus begins a writer in the Seifensieder Zeitung, and of his further remarks in pursuance of his theme we make the following extracts:

Perfumery is an art, never resting, never standing still, but ever progressing, striving forward, creating something new daily; an art which—followed with intelligence and knowledge—brings lucrative employment and even wealth: but when it is followed with insufficient attention or other fundmental requirements, it leads rapidly to severe losses. In olden times, in the very musty past, this art was a highly respected and and led to grand achievements; even more so than at the present time.

What constitutes a capable perfumer and what must he know? Above all he must be physically healthy. One suffering of heart or lung disease, or nose bleeding and headaches, or who is color-blind, should not undertake this calling. Good sight and an acute sense of smell are absolutely required, especially the latter. Composure and steadiness in handling materials, a rapid conception and quick thought, a love of the greatest cleanliness and order are other indispensible natural requisites. The perfumer must be sober at all times, avoid intemperance and ordinary spirits; an occasional glass of good wine or brandy, however, is a help rather than otherwise. The smoking of cigarettes or of a tobacco pipe is a great hindrance to the perfumer's calling, and there should be no such articles carried about in his working clothes or have a place in his laboratory. A good cigar at the close of the working day, in the opinion of the writer, is much to be recommended, as are good food and exercise in the fresh air. [We have no intention to dispute the writer, but it certainly seems as if, by recommending good wine, good brandy, good cigars, good food and outdoor exercise as being calculated to aid the perfumer in his calling, he had mapped out a rather pleasant program.—Translator.] The perfumer should keep away as much as possible from the soap-boiling room, as the various vapors irritate the mucous membranes and interfere with the best work; he should have for his work a separate room, light, airy, dry and warm in winter, and similar adjoining rooms for the storage of oils and chemicals. He should be free from useless interruptions in his work; a little diversion of his attention—a little error in weight, material, or otherwise—and in less than no time a great deal of harm is done.

On his own part the perfumer must possess a knowledge of botany, of physics, of chemistry (especially organic chemistry), and must understand his raw materials sufficiently to require little reference to text-books and to be able to judge of his oils, etc., by his unaided eye and nose. He should furthermore know how soaps are made by boiling and by the cold process, and how they are milled; but while he should be capable of making them, he should avoid actually doing so as long as he is actively engaged as a perfumer. And, once more, order, punctuality and cleanliness above all!

Essential oils should be kept in dark, gray or brown bottles (not blue or white ones), and only a small stock of them and of other drugs and chemicals should be kept on hand. If face powder is among his products, he should avoid bolting it by gas or lamp light, as such powders are liable to combustion and explosion.

After washing pomades with alcohol, filtration is feasible only at low temperature—not above 50 deg. F.—and the lower, the better. All filters, whether used for oils, fats, extracts, waters, etc., should be covered with a plate of glass.

Corks from oil and extract bottles, used filtering media and residues and magnesia, etc., should not be thrown away, but put into a covered, tinned or enameled receptacle into which is thrown the alcohol used for rinsing the bottles. When enough has been collected some 96 per cent. alcohol is added, well stirred and then subjected to distillation. There results a cheap composition that can be used for the cheap uses of perfumes.

If an oil or an extract is spilled or a bottle containing some is broken, it may be absorbed quickly into cotton-wool and filter paper and extracted again from these by alcohol, so as to save it at least in part.

Medicated Soaps.

The value of Medicated Soaps in the treatment of various affections of the skin is now generally recognized by dermatologists, and to Unna and Eichhoff chiefly belong the credit of having directed the attention of the profession to this important branch of dermato-therapeutics. Shoemaker has well said "The fact that the very agent which cleanses a certain area is also the vehicle by which a remedy is applied is a sound argument for the employment of Medicated Soaps." These preparations, therefore, exert a double effect, that belonging to the soap proper and that of the medicament contained therein. The effect of soap upon the skin is both mechanical and chemical; it not only cleanses the cutaneous surface, removing foreign matter and physiological and pathological products, but penetrates into the sebaceous and sudoriparous glands and, by dissolving the fatty material filling the ducts, facilitates its removal. Aside from these effects soap exerts an influence upon the nutrition of the skin, stimulating its functions and promoting the absorption of inflammatory exudates.

In view of these beneficial effects of soap upon the skin, it is self-evident that it must constitute an excellent excipient for topical remedies in cutaneous diseases. Owing to its solvent, emollient, and cleansing action it insures ready absorption of the incorporated medicament and its penetration to the affected cutaneous structures. This is a point of supreme importance and explains the superiority of medicated soaps over other topical applications in many cutaneous affections, as for instance, the use of ointments and plasters, which more or less impair the functions of the skin by clogging up the secretory ducts of the glands and by interfering with the metabolism. When applied to the skin in the form of the lather of the soap the contained medicaments are not only rendered especially active and soluble, but are enabled to penetrate to places inaccessible to other dermato-therapeutic methods. But aside from striking advantages of medicated soaps over other topical applications, other points of equal importance will readily suggest themselves. In comparison with other methods the soap treatment is at once the cheapest, most convenient and agreeable. One cake of soap will take the place of many jars of ointment, and as this treatment is so cleanly, patients will not object to its use for prolonged periods. Moreover, a pure medicated soap retains its activity much longer than other preparations, and will not become rancid and irritating to the skin as in case of ointments.

It should be remembered that the effect of soap applications will vary in intensity according to the length of time the latter is left in contact with the skin. According to the effect desired, therefore, the lather may be at once removed by warm water, or rubbed into the skin and allowed to remain for a few minutes and then wiped off with a dry cloth, or permitted to dry on. The most intense action is secured by applying an impervious dressing to the parts (oil silk, or rubber tissue) after thorough inunction with the soap.

Recent bacteriological investigations demonstrate that a large number of cutaneous affections are due to the agency of parasitic organisms, growing on the surface of the skin, but especially in its deeper layers and in and around the follicles. From what has been above said it will be readily understood, that by the combination of an effective antiseptic with a soap base a more powerful and penetrating germicidal action is secured than from any other form of application. Antiseptic soaps are also now considered an indispensable adjunct in modern surgery, for disinfecting the skin of the patient and the hands of the surgeon and his assistants. In the physician's practice it is an equal necessity, especially after examination of cases of infectious diseases and in midwifery. The employment of antiseptic soaps is also strongly advisable in homes where contagious diseases are prevailing, and in public lavatories.

Hence looked at from the standpoint of the physician, the surgeon, and the dermatologist, the utility of medicated soaps is equally apparent. To obtain successful results from their use, however, much will depend upon the purity of the soap base and the method of preparation.

Our soaps are made from pure, neutral, white soap and contain no sugar, starch, silicate or filling material, nor do we add any coloring or pigment whatever.—Schieffelin & Co.'s Circular.

About Candles.

We read of one firm—Price's Patent Candle Co.—making over 300 different kinds of candles. That beats the variety of soap brands made by some firms.

The material used most largely in making candles at the present time is paraffin. When we realize that when many people now living were born, paraffin was still absolutely unknown, the great change from the days of the tallow candle becomes very evident.

Discovered only in 1830, by Reichenbach, paraffin remained a curiosity, until its extraction from Scotch Shale (1852) and American petroleum (1859) on a large scale, made it commercially important.

Very cheap candles can be made from the so-called paraffin-scale, a yellowish, oily material obtained by chilling and filtering the heavier crude oils.

Paraffin wax is a more refined product, colorless, less oily and harder than scale. While the various grades of scale have a melting point between 108 and 120° F., the wax is made up to a grade melting at 140° F. For

candle making the grades melting between 115 and 125° are used mostly. The harder the wax used, the less are the candles inclined to bend in warm weather.

In light-giving power paraffin wax is second only to ozokerite, excelling in this respect beeswax, stearin, tallow, etc. The harder the wax, the greater is its illuminating power.

Tallow is about the oldest candle material and, though largely displaced by paraffin now, is still used to make fairly large numbers of the old-fashioned "tallow dip." As in the case of paraffin, its value for candle making depends largely on the melting point. While for soapmaking beef tallow is preferred, the candle maker finds mutton tallow superior for his purposes.

When melted tallow cools very slowly, it separates into crystals of "stearin" and liquid (tallow oil). The "stearin" obtained from this mixture by pressure goes into a small number of candles, while the tallow oil serves as lubricant, etc. Both dips and moulded candles are made from this stearin and are better than the ordinary tallow candle.

But by the name of stearin is also known commercially another material, namely the solid fatty acids of the tallow. (The stearin of the preceding paragraph referred not to the simple fatty acid, but to the fatty acid combined with glycerin). The free fatty acid "stearin" (chemically known more properly stearic acid and becing freed from glycerine) is obtained from tallow and other fats by saponification or distillation, and enters very largely into candles.

Cocoanut oil and palm oil have been made to yield an analogous "stearin" for candle making, by melting, cooling slowly and pressing. Palm oil is also used largely to make the second variety of stearin mentioned, i. e. the solid fatty acids are extracted for candle making by saponification or distillation.

The illuminating power of stearic acid is greater than that of tallow, though inferior to paraffin.

Paraffin and stearin combined are very largely used to make candles, each serving to offset the faults of the other.

Beeswax is another very old candle material and a number of other waxes are so used also. Beeswax is a fine but expensive material.

Japan wax and Chinese wax enter into the composition of some candles; the latter chiefly to increase the hardness and lustre.

Spermaceti is a good material and furnishes the standard candle used in measuring "candle power." A standard candle is one burning up at the rate of 120 grains per hour.

The wick is now made of cotton almost in all cases; loosely twisted yarn is employed for tallow-dips and plaited wicks in all other cases.

A thin candle requires a thin wick, of course; and a low melting point of the paraffin or other material requires a thinner wick than the same sized candle of higher melting point.

The plaiting of the wick causes it to turn to the edge of the flame, where any excessive length protrudes into the atmosphere and is consequently burnt away. This prevents smoking and avoids the constant need of the "snuffer" needed for tallow-dips with loose wicks.

The plaiting of the wick is used more or less tightly, according to the materials of which the candle is made. —Moreover the wicks are steeped for some hours into some "pickle" or other and dried again, before use; this is done to improve its burning quality. Such a pickle may be simply boracic acid solution or a more complicated formula.

If the wick is not thoroughly dried after pickling, it will not carry the melted paraffin etc. properly and therefore cause a dim light. If it is moist in spots, it causes sputtering.

Tallow is too soft to be made into moulded candles and beeswax cannot be satisfactorily moulded. Tallow stearin can be employed in moulding as well as in dipping. Stearic acid, paraffin and ozokerite candles are always moulded. Beeswax is made into candles by the pouring or the rolling process.

The use of the tallow dip is now confined mostly to the needs of plumbers, miners, etc. Beeswax is used for church candles chiefly.—Extracts from an article by Geo. H. Hurst.

Montan Wax.

Montan wax is one of the distillation products of lignite, which Von Boyen now seems to have obtained in a fairly pure state. The raw material can be prepared in two ways. The lignite is heated moderately and steam of 250° C. is passed through the retort; the product, carried over with the steam, melts at about 70° C. Or the lignite is extracted with benzine or mineral oil, when a black or brown mass is obtained. When this raw material is again heated up to 300° C. and treated with steam of 250° C., a crystalline yellow substance results, which was, so far, the best Montan wax known. It resembles paraffin but is very easily saponified. With potassium chloride it forms a salt, which, dissolved in ligroin, yields a fairly pure substance, melting at 84°. At any rate, redissolution in alcohol, and distillation over acetate of magnesia, does not raise the melting point any higher. The wax would thus essentially represent a fatty acid of an exceptionally high order. Von Boyen calls the acid cerotinic acid. Its occurrence seems to be restricted to lignite. The acid can be distilled without undergoing decompositions, which is noteworthy considering the 29 carbonatoms in the moleeule.

Air Leaks.

It sometimes happens that a loose joint, or other disarranged part of an engine or machine is difficult to locate, or that the injector or pump is overhauled at great expense in time and labor, to find that there is really nothing particularly wrong with it, but its work is impaired by a small air leak in the suction pipe, or connections. A small piece of rubber hose, about three feet long, should have its place in the engine room the same as an oil can or monkey wrench, and with one end placed at the ear and the other end searching about the machine, it can easily be ascertained where the affected parts are, whether it is a loose nut, a joint, or an air leak. By this there is no danger of losing a finger by feeling around for the affected parts. I advise all engineers to try this, and if they are careful it will be continued for all time.

Everything Antisepticized.

"This towel," exclaimed a man in a laundry office, "has been subjected to an extreme heat, and is thoroughly sterilized. Every precaution is taken against exposing the patrons to infection and contagion. The soap used is debacterialized, or antisepticized. The washers are given a bath daily in bichloride of mercury, and then put under a pressure heat of 867 degrees, which guarantees all goods washed being cleansed of bacillus that often creep into such machines in many laundries. The water is always double heated and sprayed with a germicide, besides being filtered and distilled. This makes it perfectly pure. The floors, ceiling and walls, as well as all the ironing tables, baskets, etc., are given an antiseptic treatment daily, and all change handed to customers is first wiped with an antiseptic gauze. The shelves and boxes in the office are sprayed with an antiseptic cologne——"

"Well, that's wonderful," said the visitor, "and if this is all so you can take this bundle of soiled linen and put it through your thoroughly anti-contagion process."

"You will have to wait a moment," said the man; "I'm not connected with the place."

"Well, where is the proprietor?"

"O, they have him in another room boiling him out."

A terrible accident occurred on January 27 at Lautz Bros. soap works, Buffalo, N. Y. Anthony Hoehn, 45 years old, was engaged in adjusting some machinery above a soap kettle, when he lost his balance and fell head foremost into the boiling soap. He was rescued within a minute or two but died three hours after from the scalding of his entire body. The unfortunate man left a wife and several children.

PATENTS AND TRADE-MARKS.

The following list of recent Patents and Trade-Marks is reported by W. G. HENDERSON, Solicitor of American and Foreign Patents and Trade-Marks, Norris Bldg,, Washington, D. C. A copy of any of the following will be furnished by him for 15 cents.

PATENTS.

715,957.—Washboard. W. Boecker, Barney, Germany.

717,256. Soap Cake. Nelson J. Nilsson, New York, N. Y.

717-817. Soap-dispensing apparatus. Nathan J. Crowell, L. R. Wagner, and S. Wright, Newark, N. J.

TRADE-MARKS.

39,493. Cake-soap, soap powders and washing fluids. Benzine-ated Soap Company, Camden, N. J. The representation of a tankcar supported on a railroad-track, associated with the hyphenated word "Benzine-ated."

39,494. Soap. Demetrius M. Steward, Chattanooga, Tenn. The word "Stainoff."

39,495. Scouring soap. The Floridine Mfg. Co., New York, N. Y. The word "Abrado."

39,581. Complexion soap for the skin. Edward Hayes Kraut, Cincinnati, Ohio. The representation of a lemon, associated with the word "Lemonine' inscribed thereon.

39,620. Scouring and polishing soap. Lever Brothers Limited. Port Sunlight, England. The word "Rubbo."

LABELS.

9,625. Title: "Sani-Tari Soap." (For Toilet Soap.) The Citizens' Wholesale Supply Co., Columbus, Ohio.

9,634. Title: "Old Things Are Passed Away." (For Bluing.) Augustus K. Phillips, St. Louis, Mo.

AROUND THE SOAP FACTORIES.

News-items sent us by our readers will find prompt attention in this column

Dr. J. N. Prather of the Queen Oil Company is figuring on the erection of an oil refinery at Sunset, Cal. Though chiefly interested in briquettes, asphaltum, illuminating oil, etc., he is reported as also having produced a good soap which is to be a specialty at the newly contemplated works.

From South Dakota is reported the incorporation of the Casselman Soap Co. Capital $3,000,000. Incorporators: J. E. Casselman and E. H. Harrison of Chicago, Ill.; Marian Hoke, South Dakota.

Still another fatality occurred in New York City in the soap factory of the Stanley Soap Co. on West 30th street. In this case the factory was almost destroyed

by fire on January 28, at 4 o'clock in the morning and Victor Riechc, the night engineer, was suffocated while attemping to rescue some valuables which he had left in the basement. The fire is said to have been caused by the boiling over of a kettle of grease.

A certificate of incorporation has been granted to Samuel F. Darling, Adoniram J. Cushing and George C. Davis, incorporators of the Hope Refining Company, of Providence, R. I., with a capital stock of $50,000. This corporation will engage in the business of buying, selling and refining oils and the manufaeture of soaps and kindred products.

The Barry-Dost Soap Company, of Baltimore, Md., has been incorporated by John Barry, Louis H. Dost, Joseph L. Farnen, John T. Murphy and Simon B. Bransky. Capital stock, $25,000.

The Crown Oil and Wax Company, of Baltimore, Md., has been incorporated by Walter G. Crowther, Wm. N. Eggleston, Theodore A. Martin and Edwin W. Levering. Capital stock, $15,000.

Geo. A. Sehmidt, Jr., of Chicago, has applied for a patent for a fixture to be used for distributing measured quantities of liquid soaps. We have not seen the specification yet, but we'll bet a hat it's a good one.

The soap machinery of the former faetory at Jacksonville, Ill., which was advertised for sale in this paper some time ago, has been sold to a new firm in Cuba as a result. Does it pay to advertise?

The following item is sent us by Mr. Moulie, in the shape of a press elipping, (and he will have more to say on the subject of the naval stores consolidation in the near future):

The Consolidated Naval Stores Company, with headquarters in Jacksonville, Fla., has purehased the entire holding in that state of the Florida Land and Lumber Company, consisting of 235,000 acres of ehoice virgin pine timber and turpentine lands, 202,000 acres of which are in a solid body in Volusia County. This tract alone covers an area of about 40 miles in extent, running from New Smyrna, on the east coast, across the country to the St. John's River. It was known as the Chapman tract. The consideration is not known.

Solon Palmer, well known as a prominent perfumer of New York, died at his home in that city last month, at the age of 79 years, leaving a widow and two ehildren. He was born in New Hampshire, where he taught school for some years. Later he studied medicine, but changed to the manufacturing perfumery business, which he moved to New York in 1870, and succeeded in building up a large business.

Thirty men employed at the Emery Candle Works at Ivorydale, O., went on a strike on January 16, demanding an increase of wages or reduced working hours.

The H. W. Dopp Co. is the name of the reorganized Buffalo coneern. The officers of the company are: D. W. Sowers, president; S. H. Griffin, secretary-treasurer; directors, George L. Howard, Robert Lynn Cox, F. K. Kernan, S. H. Griffin, John Sedgwick and J. A. Robinson.

The Globe Soap Co. of Chicago suffered some loss by water as a a result of a fire in an adjoining building on January 22.

Adolph Heller, a soap manufacturer at Newark, N. J., died on January 14.

The controversy over the trade-mark SUNSHINE has been settled. In our next issue we shall publish a full statement, showing that the courts have decided that this trade-mark as applied to soap belongs, by reason of priority in use and by reasons of the decision of the court (which we shall publish), to A. Hoefner & Sons, of Buffalo, N. Y.

Fire in a French soap factory recently destroyed a large part of the works of the "Société anonyme des savonneries de la Méditerranée gerée par MM. Fouquet frèrers."

We certainly wish harm to no one, but cannot help hoping that a large section of the name of the firm was stored in the part of the factory that was burned.

The Queen City Soap Co., of Marshall, Mich., has filed articles of assoeiation with the register of deeds. The capital stoek of the eompany is $300,000, of whieh Louis N. Giroux, M. H. Starr, H. J. Cortright, Frank Young and Charles W. Hart each have $60,000. The business of the company is the manufacture and sale of laundry and toilet soaps. Mr. Giroux is chairman, Mr. Hart vice-chairman, Mr. Cortright secretary, Mr. Starr treasurer, and Mr. Young manager.

Two well known business men of Galesburg, Ill., have bought the College City Soap Company's business and plan to push this interest to its fullest possible development. The purchasers are George W. Spring, Jr., and W. W. Smith. The purchase was made from the Mayer

Brothers, who held the property under the management of the Hathaway Brothers, who had secured it from Mr. Pease, who founded the business.

It is the plan of the new owners to move the factory from its present location east of the city to the Perrin building on South Chambers Street, where a complete plant will soon be set in operation. The product will be marketed through the W. B. Jordan Company of wholesale grocers of Galesburg.

Mr. Spring, of the new firm, has been for eight years engaged in the wholesale beef business for the Cudahy Packing Company in New England. Before that time he was engaged in the retail business, coming West originally from Massachusetts.

W. W. Smith has been engaged in the grocery business in Galesburg for a number of years.

The United Talc Company, at Augusta, Me. Capital, $1,000,000. President, Ernest P. Jose, Boston, Mass.; treasurer, M. C. Lapham, Augusta, Me.

Thomas Ross, of Columbus, Ohio, writes that he is doubling his manufacturing capacity.

The annual meeting of the Manufacturing Perfumers' Association will be held in New York on February 5 and 6, at the Down Town Club, 60 Pine Street.

The American Soap & Washoline Co., of Cohoes, N. Y., has secured a large order for its products from the International Paper Co., a concern said to operate 42 paper factories.

Charles A. Stillwell, a well-known chemist, died on January 11 at his home in Brooklyn, at the age of 59 years. For almost a quarter of a century he had been associated with Thomas F. Gladding, and the firm of Stillwell & Gladding had become very favorably known as chemists to many of our readers.

The United States Candle Co., Trenton, N. J., capital $100,000, has been incorporated by Richard F. Tully, F. C. Taber and W. P. Hall.

Incorporated: The B. T. Babbitt Company, at Jersey City, N. J. Capital, $3,000,000. Incorporators, Clarence M. Hyde, Fred E. Hyde, Edward R. Barton.

Colgate & Co. are getting ready to erect an addition to their works. The new building will be located on York Street, east of the delivery yard and west of Hudson Street. It will be forty-five feet wide and ninety feet deep, with a height of six stories to conform with the adjoining building. Although the contracts have not yet been given out, it is estimated that the building will cost about $40,000.

The Will & Baumer Co. have spent $200,000 for a new plant near Liverpool. They employ 200 men making candles, and will add two more buildings to their stearic acid plant, so that from 60 to 75 men can be employed.

Charles Waterhouse of Essex, Conn., has acquired the right to manufacture the Otis Lightning Soap, formerly made by the late Gardener Otis of Lynne, Conn.

The Union Soap Works of Wilkes Barre, Pa., which were started a few years ago by Frank Bauer, is in process of becoming incorporated into a stock company. The capital stock of the proposed company is to be $50,000. Land for new works has already been purchased and is located at the corner of Railroad and Hanover Streets. It is 91x200 feet and within the reach of four railroad depots—the Central, Lehigh Valley, Pennsylvania and the D. & H. The buildings that are to be erected will be 50x100 feet, at the start. The business is already established and the factory is working day and night. Mr. Bauer will remain at the head of the concern as manager.

Among the New Year's crop of new incorporations is the Kleansall Company of Minneapolis, which will make soap and cleaning preparations, on a capital of $200,000, with $50,000 debt limit. Charles S. Gold, Frank S. Gold and A. C. Paul are members.

The Finola Manufacturing Company, of Baltimore, Md., has been chartered to manufacture soap and washing powders. Capital, $200,000. The incorporators are Walter S. Finnell, Charles A. W. Vogeler, John S. Finnell, Reuben Finnell and Thomas W. Brundige, all of Baltimore, Md.

Soap Manufacturers' Notice.

MAYFIELD, KY., Jan. 21st, 1903.

Having connected myself with one of the largest soap and cotton oil plants in the South, I wish to notify my patrons in the United States, Canada and Mexico that after March 1st, I will have to devote my whole time to my employer's interests, and will not have time to do any more analytical work.

Thanking those who favored me with their patronage,

I am, respectfully,

W. A. MOTT.

SUPPLEMENTARY LIST
OF THE
BRANDS OF SOAP MANUFACTURED IN THE UNITED STATES
Including also the Brands of Foreign Manufacture Registered as Trade-Marks in this Country.

NOTE: This list is compiled with the greatest possible care, but the publisher does not assume any responsibility other than to correct and to complete the list according to data obtained from official sources or furnished by the trade. Brands registered in the patent office as trade-marks or labels are given with the name of the party registering same. Brands or names marked * are those which were found to be used by more than one firm or the owner of which could not be ascertained. ☞ SEE THAT ALL YOUR BRANDS ARE ENTERED IN YOUR NAME.

344 Home Soap Co., N.Y.
345 Columbia Ref'g. & M'f'g Co. Ltd , New Orleans.

Abrado, Floridine Mfg. Co., New York.
A Happy Home 4
Amazon Coco 337
Angelus 54
Antillia 2
Anty Up 340
Apple Blossom 337

Beauty Belle 115
Bell's Brown 343
Billy-Goat 340
Blue Chip 340
Blue C oud 2
Blue Coco 340
Blue Family 340
Blue Monday 340
Blue Olive 340

Calcutta Castile 337
Chlorine 340
Cleaneasy 286
Climax Chip 54
Cloth Pin 340
Cloths Pin 340
Credential Shaving Stick 16

Dactylis 11
Dermienra 327
Durango Best, Durango (Colo.) Soap Co.

Empress Eugenie 115
Empire Geraninm 337
Encryl Encryl Ltd., Hull, England.
Evergreen 286

Facine 340
Fairbank's Primrose 2
" Scouring 2
" German Fam. 2
" Glycerine-Tar 2
" Mottled Germ'n
" Olive 2
" Navy Blue 2
Federal Family 1
Floral Feast 115
Flaunel 2
Flip 345
Force, Cincinnati Soap Co., Cincinnati, Ohio.
Fragrant Honey 2
Frog 340

Gem Wash. Compound, Clara Pearce, Philadelphia.
Georgia Oleine 29
Geyser 343
Gloriola 29
Gold Seal Soap Flour 340
Goodhair, Goodhair Remedy Co., Newark, Ohio.
Green Olive Chip 340
Green Palm 340
Green Seal Chip 340
Gusher 340

Hard Maple 155
Helix 54
Hi Lo 96
Horse Oil Harness 340

Idyllwild 54
Ilo Ilo 340
Iroquois Maiden 115

Jack & Jill 340
Jack Pot 340
Jewel 2

Kazan 343
Kimola, Bell Mg. Co., St. Louis, Mo.
King Solomon's Rock Oil S. Mnross Jenkins, N. Y.

Lakeside (Scouring) 2
La Mariposa 54
Lasco Napthol 54
Last Long 286.
La Virtho, John S. Nichols, New York.
Lemola Toilet, Lemola Soap Co., Los Angeles, Cal.
Lemolive 54
Lemonine, E H. Kraut, Cincinnati.
Limberine, E. A. Warren, St. Paul, Minn.
Lion 2
Long Shot 345

Madeira 16
Madeira Almond Cream 16
Madeira Cucumber Cream 16
Madeira Lettnce Cream 16
Madeira Olive Cream 16
Marjorie 337
Marveline 300
Maxine Elliott 337
Mentholatum Corn Oil S. 169
Mexicano 54
Michigan Family 2
Mildred 337

Naphtha Toilet 340
Naphthal 340
Napthol 340
Next-To. Phoenix Chem'l Co. New York.
Nolabor 340
Noxlabor 340
Noxwork 340

Orinoco 337
Orris Unscented 337
Otis Lightning, C. H. Waterhouse, Essex, Conn.
Oxolive 340
Oxigen 340

Palmo 340
Palm Oil S. Powder 340
Palm Soap Flour 340
Parisian Toilet 54
Passion Rose 298
" Violet 298
" Pink 298
" Lily 298
Peach Blue 340
Peerless Country Club 337
Peerless Forest Violet 337
Peerless Lily of the Valley 337
Peerless New Mown Hay 337
Pen Yen 340
Perfecto 121
Plantol Lever Bros., Limited Port Sunlight, England.
Pony Up 340
Premium, Davenport (Iowa) Soap Co.
Premium W. Powder, Davenport (Iowa) Soap Co.
Preventionette, Willard Chemical Co., Malden, Mass.

Quick and Easy 56

Rex Cremo 340
Rex Family 340
Rex Liquid Soap 340
Rexolene 340
Rexolive 340
Rockford Scouring 2
Rubbo, Lever Bros., Limited, England.

Sani-Tari Skin. Citizens Wholesale Supply Co., Columbus, O.
Santa Rex Castile 2
Savon Carnation 337
Savon Heliotrope 337
Savon Lilac 337
Savon Queen Regent 337
Savon Quo Vadis 337
Savon Rose Marechal Niel 337
Savoy Alpine Violet 337
Savoy Carnation 337
Savoy Jockey Club 337
Savoy Primrose 337
Sentinel 340
Sorosis 340
Stainoff, D. M. Steward Chattanooga.
Stainilgo, Kendall-Davis Co , Boston, Mass.
Star Mottled 2
Success Scouring Sand Soap Tacony Soap Co., Phil'a.
Sweet Blossom 2

Tew-Fer 96
Tode 340
Tonla Tonla 334
Trash Mover 286
Twin 2
Two Jacks 340

Vestal Carnation 16
Vestal Lilac 16
Violet de Parme 337

White Fairy 2
White Pine Castile 344
Windsor 2
Winner 29
World's Fair 2

Yellow Dog 340
Yellow Palm 340

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AND

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The AMERICAN SOAP JOURNAL AND MANUFACTURING CHEMIST is devoted to the interests of all manufacturing industries of a chemical character, and is an absolutely independent publication. It is the only newspaper of its kind in America and has also a large foreign circulation.

For Subscription and Advertising rates see above.

Communications on industrial subjects, news items, and any information suitable for printing in these columns, are solicited and will have due attention.

Readers in search of machinery, supplies etc., not advertised in these columns, are invited to write us and we shall endeavor to supply the information.

Address all communications to

DR. HENRY GATHMANN, Publisher,
2707 NORTH AVENUE,
MILWAUKEE, WIS., U. S. A.

Through a recent paragraph in the Buffalo *Times* we learn that Mrs. Hoehn, the widow of an employe killed by a shocking accident in Lautz Bros.' soap factory last month, is preparing to bring a damage suit against the firm.

MAR 11 1903

It is impossible for us to accurately place the blame for this and other similar accidents which we are recording in these columns from time to time. We are also fully aware of the fact that our remarks on such occasions are not at all to the taste of manufacturers in whose establishments such accidents occur. Lastly, there is "little use in locking the stable after the horse has escaped."

For all that, we cannot help thinking that there are, among our readers, men living to-day whose death by accident we are likely to record in this paper within a few months, and the thought of such conditions is truly harrowing. A trade paper, to our mind, has other work to attend to than merely truckling to its readers, and when we recall the several recent fatalities that occurred in soap factories here and there, it seems a plain duty to point out again and again that work in a soap factory is a hazardous occupation and should be surrounded by adequate safeguards.

With all due allowance for our imperfect information as to details, it would seem that the kettle in Lautz Bros.' factory might have been covered while a man was working directly above it. In that case a human life would have been spared a terrible death and the firm would not now have to face a damage suit. Whose fault it was that the kettle was not covered we are not prepared to say, and will not be known until the case is aired in the courts, but for the sake of what might happen in other factories hereafter, we want to point out, as emphatically as possible, the repeated fatalities, the interruptions in business, the wrecked buildings, and the damage suits, which are continually arising through the neglect of either employer or employe.

If there is some good in everything that occurs, surely these accidents must serve as warnings, and they can only do so by being made the most of. Hence these remarks, which may possibly aid in avoiding some accident or other in future.

There are certain products that improve with age, but toilet soap is not ordinarily classed among them.

Only "old brown Windsor" is an exception, and the explanation of this circumstance, according to Der Parfumeur, is as follows:

English toilet soaps used to be too strongly alkaline, and in order to overcome this defect, it was exposed in flat pieces to the atmosphere until it turned rancid; then it was remelted. This process was repeated until the free fatty accids formed had neutralized the free alkali. The long exposure and repeated melting over turned the soap brown, and the latter therefore was thought better in proportion as it was darker.

It is possible in these days to make neutral soaps by easier and quicker methods and though the name "Old Brown Windsor" still has a good reputation, it is very doubtful if the old process here described is in use anywhere in the world now.

A new and unique cake of soap is being put on the market by the Sayf-Syde Soap Co. of Cincinnati. It consists of a cake to one side of which is applied a printed label, waterproof and not removable by the process of washing. The label will therefore last as long as anything is left of the soap and not only is an indelible brand, but also acts in a measure as a soap dish. The cake is patented and the name Sayf-Syde is the brand.

Presumably the brand refers to the fact that one side of the cake is protected; any one familiar with the Saxon pronunciation of the German language, however, will likely conclude that the makers' name is Sayfen-Syder Co.

"Practical soap making and the formation of associations have much in common. *Agitation* is indispensible for either, and if this is carried on properly and long enough and the *right kind of material* is brought together, the ingredients will combine and group themselves in a manner that the results will serve all the better for purifying the world than before the combination. Scum is thrown out and impurities eliminated. Keep up the agitation." (Extract from a letter.)

Following the admonition given in the preceding paragraph, we may take this opportunity to refer here to the Manufacturing Perfumers' Association, of whose recent meeting we print a report on another page; here is an example where—without price agreements and similar restrictions—an association has been maintained for mutual benefit for a number of years, by a trade not only closely allied to the soap trade, but a number of whose members are actually soap manufacturers as well as perfumers.

A reader of this JOURNAL, in writing for these columns recently, urged the advantages that would accrue to the trade by a joint educational campaign designed to lead the public to use greater discrimination between good and bad soaps and to educate consumers in the use of qualities appropriate to the different purposes. We are again reminded of this by the proceedings of the perfumers' convention. Mr. Lorenz, chairman of the committee on trade interests (and now the president of the association) urged the perfumers to a similar course. He said:

"American perfumers are fast learning the fact that there is a splendid chance for competition at the good end of the business; that it is not a good thing to let the foreigner have all the credit for high priced goods. If we can be allowed to put in the expense, we can produce the quality just as well, and sometimes better—and why not? There seems to be an impression prevailing among many consumers, and even dealers, that a foreigner simply goes out into his flower garden and in some vague manner, perhaps with a tincture press, culls the sweets that he bottles for our consumption. We have been derelict in our duty to ourselves not to tell them differently. Let it be known that no more roses grow in their back yards than in ours; that the flowers that are grown by the peasants of Grasse, the Iris and citrine essences of Italy, the roses of Bulgaria, the musk and oils of Asia, are just as accessible, commercially, to the perfumers of New York, Rochester, Detroit or Toledo, as they are to those of Paris, London or Berlin. That we all get these prime materials from the same sources of supply; that we have like appliances and equal facilities to make them up. What then remains? Skill in composition, knowledge of material, taste and business tact. Can any one longer doubt that the American who in so many lines has demonstrated his ability to cover these points, and who is now literally walking over industrial Europe, will succeed in doing it in any branch that he undertakes and that he is doing this very thing now in our line both as to quality, price and taste displayed. Let us then proclaim it; let us not only assert our right to be placed on an equality with their best, but strive for the superiority that is in store for us."

Mr. Ricksecker spoke to a similar effect, and on his motion the committee on trade interests was instructed to prepare a letter showing retailers the advantages of handling American perfumes.

A list of the uses of glycerine has been prepared by an Austrian exchange which gives the following. Glycerin is used: In the manufacture of nitroglycerin, as substitute for malt in brewing, for extracting hops, for giving body to liqueurs, in the adulteration of wines, in the manufacture of chocolate and mustard and vinegar,

in chewing tobacco and snuff, in cosmetics, in extracting odors from flowers, in cloth finishing, spinning and weaving, in tanning, in dying, in the manufacture of colored paper and parchment paper, to make leather pliable, for filling gas meters and floating compasses, for printers' rollers, in photography, copying inks, ink for rubber stamps, wall paper, soap, shoe blacking, putty, formic acid, mustard oil and in making water-soluble starch.

Its use is due in some of the above cases to its adhesiveness, in others to its slight tendency to evaporation, in still others to its sweet taste or its ready absorbability. In the manufacture of nitro-glycerin its use depends on its capacity of combining with a double quantity of concentrated nitric acid, the compound containing a very large quantity of oxygen on which depends its explosive power.

That Soap Chemist.

We are unable to reply to Mr. FAIR as fully as we would like to do, for the reason that his article in last issue of the JOURNAL entitled, "About the Soap Chemist," is intended to answer all three writers in the January issue. It is not easy to pick out the parts intended as answer to BIVALENT, and besides, Mr. FAIR has further mixed up things by the introduction of irrelevant matters, like the Bessemer steel process and the new processes for decomposing fats, which are now being discussed in the German soap papers. If Mr. FAIR will reply to us in a separate article and remain within the limits of the subject under discussion, we will be only too glad to answer him fully, but we must request that in his next article, Mr. FAIR employ greater precision and consistency (prime requisites of a good soap chemist). For instance, in his last article he uses the terms: Chemist, analytical chemist and soap chemist, promiscuously, but certainly, he can mean only one and the same thing, (pardon us for calling the chemist a thing); then he speaks about the glycerine left in the *soap,* and a little farther refers to the excessive amount of glycerine retained in the *stock*. This is a loose application of terms. Continuing, he expresses the opinion that "the soap chemist must know as much, or more, about actual soap-making as the soap boiler," but, "on the other hand, if the 'boss' is competent to judge whether or not the advice (the soap chemist's advice) is correct, then he does not require the services of a soap chemist." This is inconsistent. If the "boss" does not require the services of a soap chemist, because he happens to be a competent chemist himself, then why should he not also dispense with the services of a soap boiler, because his soap chemist knows all about actual soap-making? The "boss" may be competent to do the work of any one of his employes, from soap chemist down to the youngster that wraps the cakes of soap, but he cannot do the work of all his men and his own work besides. If he can intelligently oversee the work in the factory and office, and when necessary fill the place of any one of his employes, that is enough and more than most soap manufacturers can do.

Try again, Mr. FAIR; we may yet succeed in solving the problem: "What harm has the chemist's work wrought in the soap factory so far." Then we will tackle something else. BIVALENT.

May We Laugh?

Editor AMERICAN SOAP JOURNAL:

In last issue of the JOURNAL, a correspondent signing A. I. R., claims to have discovered the real cause of the unsatisfactory condition of the soap business. It is because soap-makers hold their sides in laughter when they read the patent specifications of improved detergents.

My remark, which your correspondent quotes in his article, and to which he takes exception, is part of a private letter that was not meant for publication. I have now gone over the patent soap specifications again, and do find some which should not be included with the hilarity-provoking kind; I wish to make this correction, and humbly apologize for the too extreme opinion as expressed in that sentence. The majority of those specifications, however, are certainly mirth-exciting, which is the only valuable feature I can discover about them.

"The fact that for about a century no material improvements in the efficiency of soaps have been generally recognized as such," can hardly be accounted for upon the theory that, during all that time, soap makers have been laughing at patent soap specifications; anyhow I have not laughed at soap specifications for a century; nor is it a proof that soap makers in general are dull fellows. There has been no patentable improvement made in the multiplication table the past century, nor will there be in the present one, yet the multiplication table will be very much alive, even in its present unimproved form, long after your correspondent and this writer are buried. This is also true with regard to the soap industry, which, according to your correspondent, lacks in healthy growth and must soon die, because it is not "sending forth new branches, blossoms and fruit." All such *airy* flights of rhetoric find little application to the soap business as it is and will remain, in spite of the would-be soap reformers. Soap is very like the multiplication table, you may change the shape and dress and name of both, but you cannot change the principle, and the less you *improve* them the better they are.

Finally, I can assure your correspondent that, most patents on improved detergents are taken out by ill-informed people; some of them signing their specification with an X; hence the soap-making fraternity is not responsible for the nonsense that is secured to these inventors by letters patent. Following are a few claims taken from patent soap specifications. If your correspondent can find nothing in these, and in other funny things connected with the soap business, to laugh about, then he is losing the principal item of profit remaining in the business at the present time.

No. 1. Claim: A soap compounded and prepared from the ingredients and in the manner substantially as set forth.

(Viz: 11 lbs. 30 deg. lye, 6 lbs. grease, 3 lbs. potatoes, 12 oz. flour, 4 oz. gum tragacanth, and the yolk of 8 eggs.)

No. 2. Claim: A soap made of the ingredients herein specified and mixed together, substantially in the manner and about the proportions set forth.

(Viz: Beef tallow 6¼ lbs., dark rosin 3⅛ lbs., soft water 12 lbs., lime 1½ lbs., sal soda 6½ lbs., borax 1½ oz., saltpeter ½ oz., and beeswax 1½ oz.)

No. 3. Claim: The use of the ingredients specified, in the particular proportions and manner set forth, to make soap.

(Viz: To 2 oz. lime dissolved in rain water, add aqua ammonia 1 oz., borax 1½ oz., sal soda ½ lb., forming the first compound. Mix rain water ½ gal., hard soap 1 bar, saltpeter 1 oz., rosin ¼ lb., alum 2 oz., sal soda ¼ lb., common salt 2 oz., alcohol 1 oz. After boiling for ten minutes, add ½ pint of the first compound.

No. 4. Claim: The compound herein described, consisting of beef tallow, water, rosin, potash, sal soda, pearline, borax, sulphate of soda, salts of tartar, camphene, ammonia, benzine, turpentine and oil of sassafras, substantially as specified.

No. 5. Claim: A granular soap consisting of ten parts by weight of pure potash soap, one part water, and eighty parts granulated pumice stone, substantially as specified.

No. 6. Claim: The process described, consisting in mixing cold cotton seed oil and flour containing gluten together, allowing the mixture to stand and then mixing with the said mixture caustic soda, substantially as described.

No. 7. Claim: The within described soap, compounded of the ingredients in the manner and about the proportions set forth. Viz: Take 10 lbs. "Join," 2½ quarts lye made of soda and water, boil and add 2 oz. borax, 2 oz. pearlash, 8 oz. turpentine, 8 oz. benzine, 7 oz. ammonia, ½ lb. cocoanut oil or oil of lavender and 4 lbs. "Chinese preparation."

No. 8. See specification published in full on another page.

Very respectfully,

A SUBSCRIBER.

About Chevreul.

M. Berthelot recently entertained a large audience at the Paris Academy by a lecture on the life of Chevreul, the savant to whom the fat industry owes so much and who died about fifteen years ago at the great age of 103 years. In the course of his remarks the lecturer brought out some peculiarities of the celebrated chemist which are certainly entertaining and well worth repeating here. Speaking from personal acquaintance, M. Berthelot said:

"His conversations are still famous. He spoke slowly and deliberately, as one who thinks but slowly, but his talks were without end and his excellent memory never failed him. Nor would he ever allow any remarks from his audience to interrupt or disconcert him, especially if it happened to be a candidate, who was forced to listen to him and whom he often detained till far into the night without giving him a chance to take his leave. One had to be very careful not to contradict him, for on most things he had permanently fixed and decided opinions; on the rare occasions when anyone had the temerity to offer opposite views he could become quite disagreeable. Claude Bernard at one time had recommended to the lecturer the only way to escape these interminable speeches: It consisted in suddenly interrupting Chevreul's monologue by some pun, and then—while the aged scientist pondered its meaning for a moment—promptly taking advantage of the favorable opportunity by respectfully withdrawing.

The lecturer also quoted the following remark by Chevreul on ladies' hats: "A black hat with white, red or pink feathers or flowers is becoming to blondes; it is less suitable to brunettes, who ought to add orange colored or yellow flowers or feathers. A white hat is becoming only to white or rosy complexions. A brunette wearing a blue hat must unquestionably add orange or yellow trimmings. The green hat sets off advantageously a white or slightly rosy skin. A pink hat should not join the line of the skin directly, but should be separated from it by the hair or by white—or still better, by green—trimmings. A violet hat does not suit a brown complexion, unless the hair or yellow trimmings are interposed." It is said to be a significant fact that Mrs. Chevreul, owing to the continued offers of advice by her distinguished husband, finally preferred to renounce colored dresses entirely and dressed only in gray.

AMONG THE SOAP FACTORIES.

No. 6, *The* Wadhams Oil & Grease Co., Milwaukee.



OFFICE BUILDING—WADHAMS OIL AND GREASE CO

The Wadhams Oil & Grease Co. of Milwaukee, Wis., are among the prominent firms of the West who manufacture soap for the steam laundry trade. The business was started in 1879, and though it had a very moderate beginning, it now occupies two brick buildings, one 50 by 250 feet, and one 50 by 150 feet, each having two stories and a basement.

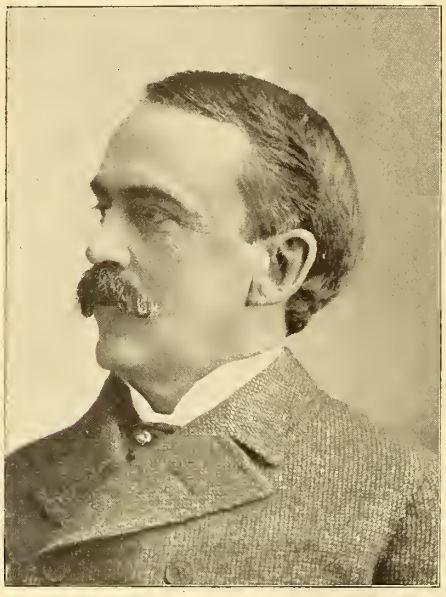
The works are located at Davidson and Walker streets, and are fitted up with four soap kettles, sizes 10x18, 8x18, 7x18 and 8x10 feet respectively; also chipping



VIEW OF WORKS OF WADHAMS OIL AND GREASE CO.

machines and drying rooms. Railroad tracks at the south side of the factory facilitate the handling of car lot shipments, and eight trucks and light wagons are employed for city and depot delivery.

The office and warehouse building is at 215-219 National Avenue. Traveling representatives of this com-



E. A. WADHAMS, PRESIDENT.

pany cover the Middle, Southern and Western states, and carry the fame of the firm's products—chiefly chip soaps—into every corner of their territory.

Mr. E. A. Wadhams is President, Mr. Geo. L. Graves is Vice-President, and Mr. Geo. A. Streeter, Secretary.

The Perfumers' Association.

As previously announced in these pages, the Manufacturing Perfumers' Association of the United States held their annual meeting in New York last month.

The convention, which was well attended, lasted two days, and lively enough in its way, but beyond electing almost entirely new officers, there were no very important transactions.

Following are the new officers: George E. Lorenz of Toledo, president; R. A. Hudnut of New York, vice-president; James E. Davis of Detroit, secretary; Adolph Spiehler of Rochester, second vice-president; Robert C. Eastman of Cincinnati, treasurer.

Twelve active and fifteen associate members joined the association during the past year. The perfumery business during the same time had been very good, but existing evils thoroughly discussed at the last convention had been left practically unchanged. The several firms in the business each had their own opinions as to what were the worst of the evils to contend with. Enumerated without strict regard to their respective importance, there were mentioned: First, a large increase in the number of small competitors who were induced to enter the business by the arguments and inducements offered by certain essential oil houses. Then there is a list of more properly called "evils" which the president tabulated as follows:

(1) The consignment of goods.

(2) Prepayment of freight in less than twenty-five-dollar lots.

(3) Dating of bills ahead.

(4) Extra time given on both regular and holiday goods.

(5) Jobbing discount to small trade.

(6) Putting customers on best quantity discount list for small purchases.

(7) The tendency to increase discounts beyond reasonable limits.

(8) An extra discount for cash varying from 3 to 7 per cent.

(9) Ten and 25c goods listed too low.

(10) Putting up American perfumes under fictitious foreign names.

(11) Encouraging customers to have goods put up under their own name.

(12) Free offers and gratuities or premiums.

(13) Giving bonus of advertisements in publications.

(14) Giving bonus of prizes of objects not related to the perfumery business, such as clocks, ornaments, etc.

(15) Furnishing small labels for decanting.

(16) Exchange of goods that do not sell.

(17) Claims for shortages.

(18) Essential oil men selling to small trade and encouraging them by means of formulas to go into the manufacturing of perfumes.

Imitation of labels, etc., individual style, etc.

Pushing of imported goods by retailers.

The entire list was referred to the executive board. The latter, in six meetings held during the last year, had taken action on a number of important matters. One of these resulted in a resolution that members cease to buy from houses who make it a practice to give away formulas in order to induce various parties to engage in manufacturing perfumery. Much work was done, together with the committee on importations and undervaluations of such, but the time had not come yet to make any disclosures. The proposed French reciprocity treaty and the Joy alcohol tax bill were next discussed.

There were then elected the above-named officers and the Executive Board, which will be composed as follows:

Frederick K. Stearns, Detroit; Teodore Ricksecker, New York; M. P. Lind, Philadelphia; Herman Tappan, New York, Henry Dalley, New York; Alfred G. Wright, Rochester; Gilbert Colgate, New York.

Mr. Tappan was chosen as the chairman of the board for the ensuing year.

Made In Germany.

Ignorantia Pyramidalis.—In a recent number of the Seifensieder Zeitung, published in Augsburg, Germany; Dr. Koppert, in a controversy about deglycerination of fats, refers facetiously to a mythical book: "The Secrets of Fat Decomposition in Theory and Practice, by Ignorantia Pyramidalis;" purporting, that the said book contains a vast store of information on Fat Decomposition, Soap Making, National Economy and many other interesting subjects. There seems to be a demand for a book of this kind, for in the following number of the S. Ztg. appears among the "Answers to Correspondents" the following reply of the editor to a would-be purchaser of that book: "H. L. in H. We regret our inability to supply the book, 'The Secrets of Fat Decomposition in Theory and Practice, by Ignorantia Pyramidalis.' Possibly Dr. K. can furnish it (? !)."

Soap In Disinfectants.

By M. I. Wilbert,

Apothecary to the German Hospital, Philadelphia.

Carbolic acid, as is well known, is one of the products resulting from the destructive distillation of coal tar, and while creosote, a somewhat similar substance, was known to exist in wood tar, it was not until 1834 that a somewhat similar compound was discovered, by Runge, in coal tar, and by him named carbolic acid, from carbo, coal, in the products of which it was found.

The purification of carbolic acid involves more or less delicate chemical processes, and is not by any means perfected, as with the best care, and for no apparent reason, carbolic acid will at times turn distinctly red and unsightly. This discoloration does not seem to impair the value of the preparation as an antiseptic or disinfectant; moreover, many observers have recognized the fact that a somewhat impure carbolic acid was fully as efficient, if not more so, that a purer article.

Some years ago Fraenkel, in making comparative tests of various antiseptics, found that the eresols were fully twice as strong in their germicidal action as pure phenol. Cresol, or cresylic acid, is the popular name for a mixture of three isomeric compounds that accompany carbolic acid in the so-called dead oil; they are also the chief constituents of crude, carbolic acid, and it is entirely due to this admixture of the eresols that the attention of medical men has from time to time been directed to the use of crude carbolic acid as an antiseptic and a disinfectant, the main and only reasonable objection to it being its insolubility.

Carbolic acid itself is quite readily soluble in from 20 to 25 parts of water, and a mixture of carbolic acid and glycerin mixes readily with all proportions of water. Cresol on the other hand is but slightly soluble, and from a mixture with glycerin it separates out almost instantly when diluted with water.

Recognizing the advantage that cresol offers as an antiseptic, several more or less soluble preparations of it have been put on the market by different manufacturers. The first of the more popular of these preparations was creolin. The compound usually sold under this name in this country is said to be rosin soap emulsion of dead oil. This preparation, while it is being used quite extensively, is not a very satisfactory product, and does not give a clear solution with water. Sulpho eresol, a mixture of sulphuricacid and eresol, is a combination somewhat resembling creolin in its efficiency and physical properties, but is not so well known in this country. Another proprietary article that has met with considerable success and offers the marked advantage of giving a clear solution with water, is lysol. This, according to the manufacturers, is the fraction of coal tar that boils between 190 and 200 degrees C., dissolved in fat and saponified.

The German Pharmacopœia, in its last edition, includes a preparation having somewhat similar properties, and calls it Liquor Cresoli Saponatus. It is directed to be made by heating one part of potash soap on a water bath, until melted, and then adding an equal weight of crude cresol and stiring until thoroughly mixed. A preparation resembling the above in many ways has been in use at the German Hospital in Philadelphia, for several years, both as a disinfectant and also to some extent as an antiseptic.

The making of this preparation requires an alcoholic solution of soda soap, made according to the following formula:

Cotton seed oil	300
Caustic soda	45
Water	350
Alcohol	250

Mix.

A mixture of equal parts of this soap solution and of crude carbolic acid will give a clear reddish-brown liquid, slightly alkaline in reaction, and having about the same consistency as syrup. It mixes readily in all proportions with distilled water, yielding a solution that is yellowish-brown in color and slightly alkaline in re-

action, which imparts to the hands a slippery, saponaceous feeling, but is not caustic, even in strong solution.

This preparation has the advantage of being comparatively cheap—less than one-fourth the price of pure phenol—and this, with its greater efficiency as a disinfectant, should insure it a very wide field of usefulness.

To judge from the writer's own experience, or from the available literature on the subject, it would seem evident that this preparation offers a safe, if not ideal, method of dispensing crude carbolic acid for general disinfecting purposes. Its ready solubility in water, coupled with the fact that the soap prevents, to a considerable extent, that caustic or blanching effect of the acid on the human skin or mucous membrane, are properties that will readily appeal to all. In addition, we may here enumerate some of the other advantages that a preparation of this kind possesses.

As an antiseptic it is not only stronger and more efficient than pure phenol, due to the large percentage of cresol it contains, but on account of its alkaline reaction and saponaceous qualities it is much more penetrating in its action. The alkali has the property of dissolving fat, mucus and masses of lymph and blood, thus imparting to this preparation the added advantages of a detergent as well as an antiseptic.

It is well known that the presence of albuminous material interferes with the action of many chemical antiseptics. Corrosive sublimate, for instance, readily coagulates albumen, and this coagulated albumen will then act as a shield or covering for any micro-organisms that may be inclosed in or under it, and thus preserve their vitality until such time as the surrounding conditions allow them to increase or proliferate.

This alkaline solution, on the other hand, has the property of dissolving any collection of organic debris under which a mass of micro-organisms would be likely to find shelter.

As a wash for preparing the field of operation, the hands of the surgeon or his assistants, the instruments to be used, the furnishings of the room, or even the walls and floors of the room itself, this preparation is to be recommended on account of its saponaceous qualities and its marked value as an antiseptic and a disinfectant. As a detergent and disinfectant in cases of offensive secretions or excretions, especially those due to excessive perspiration in the axilla or between the toes, it has been tried and proven to be of great usefulness and advantage.

As a general disinfectant, it is to be recommended on account of its efficiency, ready solubility in water, and last, but not least, its cheapness.—American Druggist.

Improvement in the Manufacture of Soap.

[This specification is the one referred to as "No. 8" in the article "May We Laugh?" published on a preceding page of this paper.]

To all whom it may concern:

Be it known that I, Thornton R. Walker, of Tymochtee, in the county of Wyandot and State of Ohio, have invented a new and useful Improvement in Soap; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same.

My invention has for its object to furnish, and consists in, an improved soap formed of the ingredients hereinafter mentioned.

In preparing my improved soap, I combine with each other the following ingredients: The product of the action of sulphuric acid upon turpentine; the product of the action of nitric acid upon turpentine; the product of the action of muriatic acid upon turpentine; the product of the action of heat upon turpentine at a temperature of from 200° to 250° centrigade; caoutchoucin; the product of the action of nitric acid upon benzine with nitric and sulphuric acids; the product of the action of muriatic acid upon benzine; the product of the action of nitric acid upon "rose burning-fluid," also called "rose-oil"—a hydrocarbon; the product of the action of muriatic acid upon "rose burning-fluid;" the product of the action of the nitric and sulphuric acids upon "rose burning-fluid;" the product of the action of turpentine upon benzine; the product of the action of turpentine upon rose burning-fluid; the product of the action of sulphuric acid upon a mixture of turpentine and benzine; the product of the action of sulphuric acid upon a mixture of turpentine and rose burning-fluid; the product of the action of nitric acid upon a mixture of turpentine and benzine; the product of the action of nitric acid and rose burning-fluid upon a mixture of turpentine; petroleum; naphtha; the product of the action of nitric acid upon petroleum; the product of the action of nitric and sulphuric acids upon petroleum; the product of the action of nitric acid upon naphtha; the product of the action of nitric and sulphuric acids upon naphtha; the product of the action of a mixture of nitric acid and sulphuric acids upon a mixture of naphtha and petroleum; the product of the action of nitric acid upon a mixture of petroleum and benzine; the product of the action of nitric acid upon a mixture of petroleum and rose burning-fluid; the product of the action of nitric acid upon a mixture of naphtha and benzine; the product of the action of nitric acid upon a mixture of naphtha and rose burning-fluid; the product of the action of nitric acid upon a mixture

of naphtha and turpentine; the product of the action of nitric acid upon a mixture of petroleum and turpentine; the product of the action upon a mixture of nitric and sulphurie aeids upon a mixture of turpentine and petroleum; the product of the action of a mixture of nitric and sulphurie acids upon a mixture of naphtha and benzine; the product of the action of a mixture of nitric and sulphuric acids upon a mixture of rose burning-fluid and petroleum; the product of the action of a mixture of nitric and sulphuric acids upon a mixture of benzine and petroleum; the pro duct of the action of a mixture of nitrie and sulphurie acids upon a mixture of naphtha and rose burning-fluid; the product of the action of a mixture of nitric and sulphuric acids upon a mixture of naphtha and turpentine; the produet of the action of a mixture of nitrie and sulphuric acids upon a mixture of turpentine and benzine; the product of the action of a mixture of nitrie and sulphuric acids upon a mixture of turpentine and rose burning-fiuid; the product of the action of a mixture of nitric and sulphuric acids upon a mixture of benzine and rose burning-fluids; the produet of the action of boron fluoride upon a mixture of turpentine and benzine.

These ingredients in whole or in part, and in any desired proportions, are combined with eaeh other to form a soap in the ordinary manner of soap-making.

In the use of sulphuric acid in preparing any product, I use about three-fourths of an ounee to the gallon of other fluid mentioned. In the use of nitrie acid or muriatic acid, I use about one-half ounce to the gallon of other fluid mentioned. In the action of one of the fluids mentioned upon another, as for instance that of turpentine on benzine, equal parts of each are used. In mixing acids, I take of sulphurie aeid two parts and of other aeids mentioned one part. In mixing the fluids mentioned, such as benzine, naphtha, petroleum, rose burning-fluid, ete., as aforementioned, equalparts of each are used. In combining a mixture of acids with a mixture of the fluids mentioned, I use about five-eighths of an ounce of mixed aeid per one gallon of the mixed fluids. The acids are mixed in carboys, or any other suitable vessels, and are ready for use as soon as mixed. The fluids spoken of may be mixed in barrels or any thing else suitable. The acids and fluids mentioned, from which the products are obtained, may be mixed in barrels or holders of any kind. In the action of an acid or mixture of acids on a fluid or mixture of fluids in barrel or other vessel, the product is decanted, except the acid residue in the bottom, which must not be withdrawn with the rest of the fluid, nor used in the making of soap. In obtaining the product of boron fluoride, equal parts of the fluids spoken of are mixed in a barrel, or something suitable, into the bottom of which is introdueed or set a short porcelain tube, closed at the lower end, and containing four ounces (by weight) of vitrified borie oxide, and eight ounces of fluorspar, into which, by means of a glass-tube, is slowly introduced forty-eight ounces (all by weight) of oil of vitriol. After standing for about twenty-four hours, the liquid-product is then drawn off, except a little residue in the bottom. In making any of the products, as before stated, they should stand about twenty-four hours before being decanted. The preparation of caoutchoucin is well known, and it is prepared—(Fown's Chemistry, page 491)—by the dry or destructive distillation of eaoutehouc. In making my soap, I combine with one gallon of soap four ounces of any number of the substanees mentioned—that is, if I should use but one, I should use four ounces, and if I should use forty of the substances or products mentioned, the sum of equal quantities of eaeh would amount to four ounces. Although I generally prepare the soap and ingredients as aforesaid, yet they may all be prepared in any proportions that may happen to suit the manufacturer. I at present regard the foregoing as being the best method of procedure, all things considered.

I combine with one gallon of soap two ounces of the product of sulphurie aeid and turpentine, one ounce of the product of nitric acid and benzine, one ounce of the product of the action of nitrie acid on "rose burning-fluid." I eombine with one gallon of turpentine, three-fourths ounce sulphuric acid; with benzine, one-half ounce nitric aeid; with "rose burning-fluid," one-half ounce nitrie acid. The above carbon oils are subjected to the aetion of the acids for a period of about three days when all the product is ready for use, except a small aeid residue which settles to the bottom. During the three days that the chemical change is going on in the carbon oils, they should be stirred or shaken two or three times, to facilitate the combination. The acid residue whieh is at the bottom must not be used, as it would cause the decomposition of an equivalent quantity of soap. The above products are thoroughly combined with the soap in the above proportions.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

An improved soap formed of the above-mentioned ingredients, in whole or in part, substantially as herein set forth.

THARNTON R. WALKER.

Witnesses:

CRAWFORD KEAR,
JOSEPH H. SWERLEIN.

Sunshine Soap.

TRADE-MARK RIGHTS DECIDED.

(Specially Reported.)

Decrees of the United States Circuit Courts have recently been entered in the Western District of Pennsylvania and the District of Maryland, which settle the question of title to the trade-mark "Sunshine" for soaps. The complainants in both cases were A. Hoefner & Sons, of Buffalo, N. Y. The defendants in the Pittsburg case were Geo. Hasley & Sons, of Allegheny, Pa., and the defendant in the Baltimore case was the Baltimore Wholesale Grocery Co. of Baltimore. Perpetual injunctions were issued in both cases, restraining the defendants in both cases from using the mark "Sunshine" in any form, and restraining them from using any label or wrapper in any way simulating that of A. Hoefner & Sons.

The records show and affirm the absolute rights of A. Hoefner & Sons. When the complainants had made their proofs, it became evident to the Pittsburg firm that they could not defeat the claim always made by the Hoefners that they were the originators and proprietors of the trade-mark "Sunshine;" so they came into court with a full concession of the facts, and consented to the decree and injunction.

In order that the trade may know exactly what has been established, we quote the following from the stipulation upon which the decree was entered against Geo. Hasley & Sons.

"It is hereby stipulated by the defendants as follows, namely:

"That the allegations of the bill of complaint herein, in so far as they allege the exclusive right of the complainants to the trade-mark therein mentioned and the infringement thereof by the defendant, are good and true.

"That the complainants are the proprietors of the trade-mark "Sunshine" for soaps, and have the exclusive right to the use of same.

"That these defendants, nor either of them, have any right to the use of the said trade-mark "Sunshine" for soaps or any simulation of the same.

"That these defendants have infringed the rights of the complainants by using and employing the word "Sunshine" in a trade-mark for soaps.

"That these defendants have used labels resembling the label of these complainants in connection with the word "Sunshine" as a label and trade-mark for soaps.

"That these complainants, by reason thereof, and as prayed in said bill of complaint, are entitled to a decree and a perpetual injunction against these defendants and each of them and their servants, agents and employes, restraining them from further infringement and use of said labels.

"That the complainants are entitled to damages by reason of the aforesaid infringement of the defendants, and to have the same ascertained by the court in the usual manner.

"That these defendants will immediately destroy all labels, dies, die-plates and wrappers and all advertising matter bearing said trade-mark or any simulation of the mark, die or wrappers of the complainants.

"That these defendants will notify all of their customers who have been buying soap trade-marked "Sunshine" that they have discontinued the manufacture and sale of the same.

"It is further stipulated by these defendants, and conceded by them, that they consent to and personally sign this stipulation because they admit, and because complainants' *prima facia* proofs show, that they could not establish prior or other right to said trade-mark "Sunshine" and that this stipulation is neither collusive nor friendly, but is made by reason of the admitted facts above set forth."

This should settle the matter. The injunction orders are broad and sweeping. The Baltimore Wholesale Grocery Co. was, of course, a dealer in infringing soaps, and these decisions will be a warning to dealers.

The conduct of Geo. Hasley & Sons, in admitting the facts and discontinuing the infringement is considered highly commendable, for if any manufacturer other than A. Hoefner & Sons had any right to the trade-mark "Sunshine," it certainly was Hasley & Sons. But the proofs finally established the prior rights and the continuous use of the plaintiffs so far back in the early days of the original A. Hoefner concern, that there could be no question as to their rights. The Hasleys had the good sense and business judgment to recognize the situation, to at once abandon the "Sunshine" brand, and deliver their "Sunshine" soap panels to the complainants. The suits were conducted for A. Hoefner & Sons by Macomber & Ellis, patent lawyers, of Buffalo.

Perfume Manufacture in the Philippines.

If the manufacturers and dealers in perfumes of the most inferior, cheapest and highly-colored order had any idea of the extent of the demand for cheap colognes in any one of these islands of the Pacific, they would not hesitate long in shipping cargoes here for distribution. After some years of traveling in the islands of the Philippines, Guam. Gilbert Group, islands in the China Sea, Borneo, Sulu Archipelago, and other places in which the inhabitants are of the semi-savage order, I made up my mind that the venders of native perfumes are doing about as good trading as any people in the country. One can have little idea of the true situation in these fantastically colored waters, with little genuine

scent in them, until he sees the conditions himself. If you get an old empty ginger ale bottle, and a small utensil of glass or metal or wood or crockery or clay, and paste it up with flaring-colored labels, and put into it some colored waters, with a little perfume odor, even if it be very inferior, the same will sell very quickly. Half-starved natives, illy-clad inhabitants of the interior and likewise, will spend their last cent for these cheap colognes. Spain long since discovered the weaknesses of the people of these numerous islands generally grouped in the Philippine sections, and for years shipped great cargoes of about as inferior colognes as one would wish for, and yet these miniature little flary-colored bottles of cheap scent, always sold readily in the Chinese and native stores. Anything bearing the odor label goes. Some of the colognes are like poisons and apparently are. Some are distasteful to the nostrils, yet they sell well.

Because of the fact that these bottled colored waters of foreign make sell at prices which are about four times greater than the values of the best colognes of America and other countries, there has been something done in recent years towards the local manufacture of scented stuffs. This is because there grows in the Isle of Mindanoa and many other islands some very good flowers, barks, herbs and the like that are very suitable for cologne manufacture. There seems hardly any need to import these adulterants when there are good products in the forests and jungle for this service. I will, therefore, refer briefly to some of the progress effected along these lines in recent times, not only in the Philippines, but in adjacent countries. When one goes into the cologne factories of civilized and advanced nations nowadays, he finds some pretty thorough and up-to-date mechanical devices for doing the work. He sees in tanks and other places stuff resembling lard. This is a combination of melted beef or tallow and olive oil. This fatty substance is impregnated thoroughly with the scent stuffs. The essence of flowers, of whatever nature required, is contained in this stuff and this is as known for transportation purposes. The perfume maker extracts the scent form the fat as required. The application of spirits effect the process. But in these islands one finds there are no such conveniences for the work. Sometimes very excellent perfume-producing substances are utilized only in very small part because of the lack of means on the part of the native workmen to extract the richness therefrom. Wasteage is fearful in every direction. However, one cannot calculate upon securing effective returns when the equipments of the native cologne works consist of utensils like those presented in the cuts. Often the factory itself is only a shack. Instead of a good-sized vat for reducing stock by grinding, one sees only a hand-mug affair, in which the little stock can be manipulated at one time. When the native cologne maker and vender secures from the forests or the fields plants which he knows are suitable for growing leaves or flowers from which scents can be pressed, he cultivates the same under a protected roofing of bamboo and nipa. A figure shows the scheme employed for containing the juices of pressed substances of flowers, for some sorts of these juices are exposed to the action of heat, air and the weather previous to working into form for making perfumes. These tubes are simple halves of bamboo poles.

A vat is employed for extracting the scents from the flowers. The blossoms are collected while the dew is on them in the early morning, and this is done by careful and skilled pickers, who understand the properties of the stock. The density of the odor on the blossoms is of course less when the sun has dried them off. The dew has a tendency to retain the scents, and the workmen take advantage of this natural protection. As to the extraction of the odors, the Moro tribes, the Filipinos, and others who engage in perfume making for home use and for export, employ fats, as it is well known to the native manufacturers that the affinity of fatty stuffs for the scent of flowers is wonderful. The properties of the fatty matters secured from animal greases, fats from the oils of the cocoanut and fats from other sources are suitable for retaining the scents of the flowers for a long time and make it possible for transporting the odor from one point to another, often great distances, as from the Philippines to America or Europe. The fatty stuffs are usually the surface portions of greases accumulated in a covered stone vat. The topping is cement stuff as a rule, although sometimes it is only mud wall work. The fats are permitted to consolidate, then the blossoms are equally distributed over the fatty surface and allowed to stay there until the extraction properties of the fats absorb all the scent from the flowers, barks, blossoms, leaves, or whatsoever the natives place in position on the surfacing. Sometimes several operations are needed to properly impregnate the fat. This fat is then used for purposes of retaining the scents for sale. One sees varied forms of tubes of bamboo, quills of bark, pieces of cylindrical portions, stone dishes and the like used for packing the fats. The essential oils are extracted by distillation.

The flowers in this process are taken from the fields in sacks or mats, and placed near native-made stills, where the essence is condensed and falls with water used for the purpose in a specially arranged tub below. The difference in the specific gravities of the components in the liquid formation results in the separation required and the essence is run off into a special vat and the watery substances to a trench leading away from the place. The natives have quite a sale for the fatty substances of tallow containing the ingredients for cologne making. There are some special perfumes secured from

the roots of trees and herbs that do not grow in other lands and which are produced in the forests of the Isle de Mindanoa, which the natives take to market and make into scent stuffs. On the other hand of the perfumes of native make are exceedingly inferior and practically worthless as a scent. There appears an increased demand for perfume stuffs, and the exports have been increased since the Americans commenced to open up the new territories in the southern sections of the archipelago.—*Oil, Paint and Drug Reporter.*

Adulterated Rosin.

Complaint is made of the adulteration of American rosins. It is claimed that the adulterants of rosin are the refuse of several large chemical works, who sell the stuff to concerns which, by the art of compounding 60 per cent. chemical refuse with 40 per cent. "A No. 1" rosin, produce an article which cannot be distinguished from the highest grade of rosin except by chemical analysis.—*Oil, Drug and Paint Reporter.*

Adulteration of Peppermint Oil.

E. J. Parry says in the Chemist and Druggist that since the great increase in the price of peppermint oil, adulteration of this article has increased to an enormous extent. Ten samples recently examined by him varied in specific gravity from 0.880 to 9.04 and in rotation from—9° to—14°. None dissolved in 3 volumes of 90 per cent. alcohol and from none could any menthol be separated by cooling to —10° C. with the addition of a few crystals of that substance.

Adulterated Citronella Oil.

J. Parry B. Sc. and C. T. Bennett, Ph. C., report the results of their examination of a large number of samples of citronella oil which has recently appeared in very large quantities in the London, Liverpool and American markets and do not pass "Schimmel's test." The oils formed a clear mixture with an equal volume of 80 per cent. alcohol, but on further addition of alcohol oily drops separated, and from 5 to 6 per cent. of an insoluble oily liquid rose to the surface after standing about twelve hours. This foreign substance was identified as fairly pure resin spirit or light resin oil, the product of the destructive distillation of resin. The citronella oil appeared to be adulterated to the extent of 12½ per cent. and upward with resin spirit. The experiments tended to show that citronella oil mixed with small proportions of well purified resin spirit may comply with what is known commercially as "Schimmel's test."

Production of Talc.

The production of talk in the United States in 1901, exclusive of the fibrous talc that is obtained from New York, was 28,643 short tons, valued at $424,888, as compared with 27,943, valued at $383,541 in 1900, an increase of 700 tons in amount and of $41,347 in value. The production of fibrous talc was 69,200 tons, valued at $483,600, an increase of 5,700 tons in amount,, but a decrease of $15,900 in value as compared with the production in 1900, which was 63,500 tons, valued at $499,500.

Talc is employed in the arts in two distinct forms —as powdered or flour talc and as sawed pieces of various sizes and shapes. The flour talc is used as a base for fireproof paints, for electric insulators, in boiler and steampipe coverings, for foundry facings, in the manufacture of dynamite, in the manufacture of wall papers to give them a glossy appearance (ground mica being the mineral most extensively used for this purpose), in the manufacture of various toilet powders, for dressing skins and leather, and as a base for lubricants and for many of the cheaper soaps. Nearly all of the fibrous talc produced in St. Lawrence county, New York, is ground and used in the manufacture of paper. Its fibrous and pliable character makes its valuable for this purpose, as it causes the talc to be retained in the paper pulp, thus giving the paper additional strength as well as weight. Some of the flour talc made from the non-fibrous mineral is sometimes used in paper manufacturing, but although this acts satisfactorily as fillers, it does not strengthen the paper.

Talc is found in considerable variety in nearly every State along the Atlantic slope, the deposits of best quality being in New York and North Carolina. That obtained from New York is used almost exclusively as a filler in the manufacture of paper, and most of that from North Carolina is ground to a powder and used in the manufacture of toilet powders; a little is used in paper manufacturing, etc. There was but little change in the talc fields of New York, but in North Carolina the Hillyer mine, which had been idle for a number of years, was re-opened and produced considerable talc during 1901.

The other states that have produced talc or soapstone are New Hampshire, Vermont, Massachusetts, New Jersey, Pennsylvania, Maryland, Georgia and California. A large part of the soapstone mined in these latter States is ground, and is used for various purposes, as paint, paper filling, lubricants, etc.

The talc deposits of New York, are in Edwards and Fowler townships of St. Lawrence county, and occur in a belt of impure limestones, which crosses a portion of these townships for a distance of seven or eight miles. The principal mines are located near Talcville, Edwards

township, and near little York, Fowler township. There has been a consolidation of a number of the smaller properties, so that they are now worked more systematically and on a larger scale.

In North Carolina the talc deposits are found in Swain and Cherokee counties, lying for the most part between a strata of marble and quarzite. The principal mining is in the vicinity of Hewitts and Nantahala, Swain county, and a few miles east of Murphy, and in the vicinity of Kinsey, Cherokee county. The re-opening of the Hillyer mine, which is about a mile east of Kinsey, has added considerably to the production of North Carolina talc. The mines in the vicinity of Hewitts have been worked on a much larger scale than for many years.

The pyrophyllite deposits of Moore county are extensively mined, the product being used for various purposes; but it is not of as good quality as the genuine talc, and does not command as high a price. There was a considerable increase in the production of the mines of this county over that of 1900, but there will always be a limited demand for the product, as it cannot be used for the same purposes for which the finer grades of talc are adapted. There should be a large demand for it for foundry purposes.

The Massachusetts talc deposits are located near Dalton, Berkshire county, and are worked by drifting and shafting. One tunnel has been run in 200 feet, starting on the north side of the slope, at the end of which a shaft 80 feet deep has been sunk. The width of the deposit upon which the work has been done is 28 feet. The talc is foliated, and all that is mined is ground to a flour talc.

In Warren county, New Jersey, a soapstone vein has been encountered which has a northeast-southwest strike. It is worked by the Lizzi Clay and Pulpstone Company, which has an open quarry on the bank of the Delaware River about 20 feet above the water. This deposit has been worked almost continuously for 20 years, and there have been over 50,000 tons of talc taken out, nearly all of which has been ground to a powder, the larger proportion being used in the manufacturer of paper. The tailings from the bolting of the ground talc are used to some considerable extent by roofing-paper manufacturers and others. This same vein of talc outcrops across the river on the Pennsylvania side, in the vicinity of Easton, Northampton county, and is worked extensively. The general width of the soapstone belt is from 500 to 600 feet, and it is associated with limestone. Practically all of this Pennsylvania and New Jersey talc or soapstone, which is almost identical in appearance and quality, is put on the market in the form of a ground product.

Talc deposits habe been worked in Maryland, in Howard county. Near Westminister, Carroll county, soapstone deposits are reported, which contain fine stone that is capable of being mined in large blocks, and is also of sufficient purity for grinding. A small amount of this soapstone was ground during last year. The Virginia deposits are, for the most part, the steatite variety of talc, some of which is ground to flour talc. Most of it, however, is used for manufacturing into washtubs, etc. B. H. Hester, of Oakland, Louisa county, reports the occurrence of a deposit of soapstone of very good quality in that section. In the vicinity of Wiehle, Fairfax county, a fibrous talc has been obtained in some quantity.

The occurrence of talc in Georgia is somewhat similar to that of North Carolina, and the formation is probably a continuation of it, but the talc is more compact and is not of so fine quality. The principal mining has been done in Murray county, two miles east of Dalton. A deposit of white talc is reported two miles from Ballground, Ga. which has been prospected to some extent by open cuts, shafts and borings. It is expected that this deposit will be worked during 1903. The width of the deposit is from four to six feet. About one-half of the talc mined in Georgia is put on the market in the form of ground talc.

Soapstone is found in Catalina Island, Los Angeles county, California, a portion of which is suitable for grinding, while another portion is much harder and resembles serpentine. In Tulare county, near Lindsay, about two and one-half miles east of the railroad, lenses of talc six to eight feet wide have been recently discovered a hundred or more feet in length. The talc formation can be traced for a distance of 1,500 feet.

There is a constantly increasing demand for talc, especially for that suitable for grinding to powder for use for complexion powders and for paper filling, and any new occurrence of this mineral in quantity and near railroad transportation is worthy of investigation.

Nearly all of the talc that is mined is used by the original producers, there being but a small amount sold in the crude state. The talc is classified according to the manner in which it is marketed, as rough, sawed into slabs, manufactured articles, and ground talc. There is always in the manufactured articles a considerable variation each year in the value of the production, which is undoubtedly due to the character of the article made.

Of the output of fibrous talc in New York, 200 tons, fibrous talc, in 1901, 3,920 tons, valued at $30,874, were marketed in the rough condition as when quarried; 225 tons, valued at $4,261, were sawed into slabs; 12,618 tons, valued at $257,146, were manufactured into a variety of articles; and 11,880 tons, valued at $132,607, were ground and sold in powdered form. A considerable quantity of the North Carolina talc was sold crude, but was afterward ground and used in the manufacture of powder. Almost the entire production of New Jersey

was also used for this purpose. The production by States during the year 1900 and 1901 were as follows: Georgia, 1900, 6,477 short tons, value $77,213; 1901, 693 tons, value $4,717. North Carolina, 1900, 4,522 tons, value $15,308; 1901, 5,819 tons, value $77,824. Pennsylvania, 1900, not separately reported; 1901, 2,552 tons, value $19,132. Virginia, 1900, 9,806 tons, value $116,930; 1901, 12,511 tons, value $232,900. Other states (including California, Maryland, Massachusetts, New Hampshire, New Jersey and Vermont), 1900, 7,138 tons, value $114,090; 1901, 7,068 tons, value $90,315.

As is seen from these figures, there has been a decided increase in the production of both North Carolina and Virginia in 1901, while the production of Georgia is hardly one-tenth of what it was in 1900. The large increase in value of the Virginia production is due to the manufactured articles included in the output. The apparently small increase in value of the North Carolina production is partially due to the large output of pyrophillite soapstone from Moore county, which does not command as high a value as the genuine talc.

Of the output of talc and soapstone, exclusive of valued at $600, were sold in crude condition in 1901, while 69,000 tons, valued at $483,000, were ground into paper fillings, paints, wall plasters, etc. During the last year or two there has been a consolidation of a number of smaller properties, which will probably result in a larger production of fibrous talc in 1903. The increase in the use of fibrous talc in the paper industry, as this is the purpose for which nearly all the New Yorw talc is used, is illustrated by the figures showing the production of this variety of talc since 1880, which exhibit an almost constant increase of production, beginning in 1880 with 4,210 tons, valued at $54,730, and ending in 1900 with 69,200, valued at $483,600. At the p resent time but little talc is imported into the United States. and since 1899 the imports have been very irregular, owing to the development of good deposits of this mineral in this country. The imports were mainly of French and Italian talc, which have been been quoted on the market at a higher price than any mined in the United States, although the quality is probably not any better than that from Swain and Cherokee counties, South Carolina. The imports in 1901 amounted to 2,386 tons, valued at $27,015.

Softenings.

There is used in the finishing of cotton cloths articles which pass in the trade under the general name of "softenings." Their composition, as will be seen presently, varies somewhat. Cotton cloths of all kinds are subjected to the process of finishing for the purpose of making them saleable. However much the process of finishing may be depreciated in the abstract, yet in the concrete the consumer shown two pieces of cloth, unfinished and finished, will always select the latter because of its better appearance. To enable this finish to be obtained there is used first suitable machinery and, second, various products that help to produce this finish, and of some of these, the class known as "Softenings," it is proposed to speak.—(G. H. Hurst, in Oils, Colors, and Drysalteries.)

Certain substances if used would make the cloth feel stiff and papery which is not what is wanted. To prevent this feeling, to soften the cloth so to speak, and at the same time to make it feel fuller, is the object of using the "softenings."

One great class of these softenings are really preparations of soap. As an example take the following:

80:5 per cent. Water.
1:6 per cent. Sodium.
17:9 per cent. Fat.

This is simple soap preparation. Sometimes other substances like borax, salt, and phosphate of soda are added.

The best fats to use are tallow, lard, cocoanut oil, palmnut oil, and bleached palm oil. All the softenings are white, and hence only fats like those named, which make white soaps, can be used.

Makers of these preparations follow two plans. Either a soap is taken and boiled up with the necessary quantity of water, and any other ingredient added, or the fats are taken and saponified by the addition of the water and caustic soda required. In the preparation of these softenings experience counts for something, not only of the particular finish for which they are used, but also of the art of mixing them together to make a presentable softening.

A good softening is made from cocoanut oil. Twenty-six pounds of cocoanut oil are mixed with 4½ lb. caustic soda (77 per cent.) dissolved in 10 gallons of water. This mixture is boiled until saponification is observed to be complete and an homogeneous mass is obtained. After this 2 lb. borax can be added and the whole allowed to cool down. An occasional stirring during this time is advantageous as promoting uniform mixing. This softening will contain a little free unsaponified fat, which is not without some good features in certain finishes.

Another softening is made from 14lb. tallow, 14lb. cocoanut oil, 4½lb. caustic soda (77 per cent.) and 10 gallons water.

A good softening can be made from 14lb. tallow, 14lb. bleached palm oil, 5 lb. caustic soda (77 per cent.), 10 gallons water. When boiled add 2 lb. salt. In this case

if the boiling up is properly done the whole of the fat will be saponified, and if anything there will be a slight excess of alkali.

When soap is the basis of the softenings then a good, fairly well made white curd soap is usually selected. Cut it into small pieces and boil up with water, a good proportion being 28 lb. soap and 7 gallons of water. To this may be added 2 lb. phosphate of soda or 2 lb. salt. A palm oil soap makes a sweeter smelling softening than any other kind. Thinner softenings are produced by using more water, or stiffer ones by longer boiling or using less water.

Sometimes starch is added. A softening containing that material can be made by mixing 5 lb. starch, or better farina, in 10 gallons of water, then adding 25 lb. soap and boiling up. Stir well until all the soap and starch are dissolved, then allow it to cool.

A finer but rather more expensive softening can be made by using caustic potash in place of caustic soda, as for instance 28 lb. of cocoanut oil, 28 lb. tallow, 12 lb. caustic potash (96 per cent.), and 16 gallons water. These potash softenings are somewhat thinner than the soda softenings and therefore more easy to mix by the finisher.

A mixture of caustic potash and caustic soda may be employed, as for example, 28 lb. cocoanut oil, 6 lb. caustic potash (96 per cent.), and 5 lb. caustic soda (77 per cent.) with 18 gallons water.

There is another type of softenings of a liquid character which are employed in conjunction with Epsom salts or kieserite. With these the above soap softenings cannot be used. These liquid softenings generally are mixtures of magnesium chloride, glucose (syrup), and occasionally glycerine and zinc chloride.

The following gives the typical example:

2 lb. zinc chloride 100° Tw.
2 lb. zinc chloride 100° TW.
5 lb. liquid glucose.
2 lb. glycerine.
½ gallon water.

The Bechi Test on Olive Oils.

By L. M. Tolman.

The author, in working with a large number of salid oils, found that nearly all of them gave a brown coloration with Bechi test, as ordinarily applied, unless the sample was first purified as described below. The modification of the reagent used was that proposed by Pearman and Moor, and later by Wesson.

Two grammes of silver nitrate are dissolved in 200 c.c. of 95 per cent. alcohol, to which 40 c.c. of ether and two drops of nitric acid are added. Ten c.c. of oil, 10 c.c. of amyl alcohol, and 5 c.c. of the reagent are mixed in a test-tube. Half the mixture is poured into another test-tube and kept for comparison. The other half is heated for ten minutes in a boiling water-bath and compared with the unheated portion. The brown coloration and reduced silver show the presence of cottonseed oil. Treated in this way, some oils which were especially rancid gave a strong test with the Bechi reagent, but from the physical and chemical constants and the Halphen reaction cottonseed oil could not have been present.

It has been advised to heat the oil for one hour at 100 deg., but this, while it reduced the reaction of the reagent with other oils, also weakened the reaction with cottonseed oil and was not at all satisfactory.

Wesson advises treatment with 2 per cent. nitric acid, but while this purified the oil in some cases it could not be depended on always, since quite a number of the oils treated in this way gave strong reactions, although they contained no cottonseed oil.

The use of a dilute alkali works very well, but is inconvenient, for it emulsifies and separates very slowly. A method which is much easier, more rapid, and one which gives very satisfactory results is as follows:

To about 25 c.c. of the oil add 25 c.c. of 95 per cent. alcohol, heat gently, and shake vigorously; allow to stand until the liquids separate, decant as much of the alcohol solution as possible, and then wash the residue with 2 per cent. nitric acid and finally with water. Cottonseed oil treated in this manner reacted with undiminished strength, while the olive oils which before treatment gave deep brown colorations, showed after treatment no coloration or reduction of the silver solution at all. The free fatty acids and other products of rancidity, which are evidently the cause of the brown coloration with the Bechi reagent which these oils give, are dissolved by the alcohol and removed, while the reducing principle of the cottonseed oil is not affected. This method can be readily applied to lards or other fats which it is desirable to test by the Bechi reagent. The writer was able, by this method, to get very satisfactory and reliable results.—*Journal American Chemical Society*

The Bromine Absorption of Oils.

By Parker C. M'Ilhiney.

The most frequent adulterants of fatty oils are petroleum and rosin, both of which are relatively cheap. Both of these react with bromine to produce hydrobromic acid, and thereby give very distinct indications of their presence in the oils. An extended application of the process has not resulted in any modifications except in one instance, when we have to deal with a substance which is partly organic and partly inorganic. This condition occurs in boiled linseed oil and more particularly in driers. The oxides of lead and of manga-

nese which are natural constituents of these substances, and also the lime which is sometimes present, neutralize, as might be expected, a part or the whole of the hydrobromic acid, which may be formed by the reaction of bromine with such an adulterant as rosin or petroleum. Consequently when metallic compounds are present it is not safe to assume that an oil is free from rosin simply because its bromine substitution figure is low. If there is any considerable amount of rosin the small amount of lead and manganese present in boiled oil will not obscure the indications, especially as not only is the substitution figure of rosin very high (75 or thereabouts, as compared with 3 for linseed oil), but its addition figure is very low, only about 5 as against 105 for linseed oil. On account of the small proportion of driers usually added, it may easily happen, however, that a sample of boiled oil which contains a drier partly composed of rosin or of mineral oil may give bromine figures which are not at all suspicious. If the oil is adulterated with rosin or with mineral oil in larger amounts, 5 per cent. or more, such as would naturally be added if the purpose was to cheapen the product, the lowering of the addition figure will be sufficiently marked to attract attention even if mineral bases are present in sufficiently large amounts to entirely neutralize the hydrobromic acid, and the occurrence of so much mineral base is not likely.

It may be remarked that the iodine figure of rosin is about 0.8 of that of linseed oil, and that the adulteration with rosin may be quite serious without any marked lowering of the Hubl figure.

In the case of the analysis of driers used in making boiled oil, the same remarks apply, but in much greater degree.

To sum up the matter we may say that the introduction into an oil of mineral basis, such as lime and the oxides of lead and of manganese, decreases the bromine substitution figure given by the oil, and this reduction must be taken account of in the analysis of boiled linseed oil and of driers.

It may be of interest to give some account of the effect of varying conditions upon the results obtained by the process. First with regard to the time required for the contact. A number of experiments have been made to ascertain how long a time is required for the reaction to be completed. It appears, as a result of the experiments, that as far as the reaction of bromine and the pure glycerides is concerned, the reaction goes on to completion in a very short time, probably one minute or less, even in the case of oils absorbing most halogen, such as linseed oil. This appears to be true, generally, providing all the absorption is entirely by addition. If part or all of the absorption of halogen is by substitution, the amount absorbed varies, as it is natural to expect that it would, with the time of contact between halogen and the substance. Lewkowitsch takes exception to the author's conclusion that on account of the great variation in the results caused by differences in the time occupied by the experiments, the iodine figure of rosin is of little value as a "constant." He calls attention to the fact that the Hubl figure varies with the time of contact in the case of other substances than rosin. In reply it may be said that in the case of unsaturated glycerides the importance of the time factor is insignificant as compared with its importance when the halogen absorption is mostly by substitution. The writer still feels that the iodine figure of rosin is hardly definite enough to entitle it to recognition as a "constant."

A number of experiments were made to compare the rapidity with which bromine in carbon tetrachloride solution acts upon such material as common rosin, with the rapidity of the action of Hubl's solution on the same material.

The bromine absorption of a sample of W. G. rosin was determined in four experiments, in one of which the reagent was allowed to act upon the rosin for two minutes, in another for eighteen minutes, in a third for sixty-nine minutes, and in a fourth for twenty hours. The results obtained were as follows:

	Total bromine absorption. Per. cent.
Two minutes	160.8
Eighteen minutes	174.5
Sixty-nine minutes	178.0
Twenty hours	213.4

Similar experiments with Hubl's solution of iodine were previously reported by the author. The same sample of rosin was used in both sets of experiments. The results obtained were as follows:

Time.	Total iodine absorption. Per cent.
One hour	126.7
Two hours	133.1
Four hours	142.0
Eight hours	148.8
Eighteen hours	160.3
Fifty-two hours	172.6

Rosin may be taken as one of the best examples of the absorption of halogen purely by substitution, the addition figure being very low indeed, though the total absorption is high.

A series of five experiments, made to determine the effect of varying excess of bromine, gave the following results; a sample of pure linseed oil was used for the experiments:

Percentage of excess of bromine.	Total bromine absorption Per cent.
16.5	92.4
36.4	95.5
42.1	98.3
81.2	101.0
104.3	103.5

It will be seen that an excess of bromine amounting to 100 per cent. or more of that absorbed by the oil is necessary in order that the reaction may speedily go on to completion.

Another series of experiments was made to determine the effects of varying temperature and of the presence or absence of moisture in the oil. The bromine figure of a sample of linseed oil was determined in four ways:

First, in the ordinary way at the room temperature of 20 deg. C.

Second, with 10 c.c. of water added to each test at the room temperature.

Third, with 10 c.e. of water added to each test and the bottles kept immersed in melting ice.

Fourth, with 10 e.c. of water added to each test and the bottles heated to 30 deg. C.

The experiments were all carried on at the same time. The shortest test was 88 minutes and the longest 180 minutes.

The results obtained were as follows:

	Total bromine absorption.	Bromine addition.	Bromine substitution.
Dry, ordinary condition	110.2	104.8	2.7
10 c.c. water, ordinary temperature	108.	104.0	2.3
10 c.c. water, cooled	109.8	104.0	2.9
10 e.c. water, heated	113.2	103.0	5.0

It is noteworthy that the results appear to be but slightly affected by the variations introduced, and particularly that the presence of water seems to be without serious effect.—*Journal American Chemical Society.*

The Pessimistic Business Man.

Hopefulness is, or should be, the mainspring which prompts the action of every business man. Unfortunately, we meet now and then, and quite frequently with those who are more inclined to look on the black side than for a bright and prosperous future.

All business is more or less a speculation, not in the sense that this word is sometimes used, but exactly in the same sense that the farmer sows his grain, cultivates the ground, and looks after the crop with every care, hopefully expecting to reap a bountiful harvest, feeling satisfied that he has left nothing undone on his part to secure the desired effect.

Too frequently we find the business man of today trying to work along in the same old rut that his forefathers, when the chemist or druggist had merely to put out his sign, announcing himself as a qualified dispenser of drugs and medicines, and then await his customers with the feeling that it was their duty to ferret him out. Now times have changed, and the business man, in order to attain a measure of success, must use every effort to bring himself and his business prominently before the public with a determination, and at the same time with an expectancy that his efforts will be crowned with success.

The old story of the frog is perhaps one of the best illustrations of this, that we know of, a story which probably many of our readers have heard:

"A milkman was driving in from the country with his load of milk to make a delivery to his customers, but found that his supply for the day was somewhat short, and stopping at a spring on the way dipped up some water, and put it in the cans, in order to make up for the shortage of milk. In doing so he inadvertently took up a couple of frogs. These two finding themselves engulfed in what was to them a foreign liquid, bethought themselves of their situation. One, the pessimistic chap, at once decided that the best thing he could do was to lie down and die, that here was no hope. The other, who was of an optimistic turn of mind, was determined at least to make an effort to prolong life, and he paddled so assiduously that finally a portion of the milk was churned into a cake of butter, on to which he crawled, and sat there until relieved by the milkman."

It strikes us that here are many, who, although in the early stage of their business career, do not exactly give up, and say there is no chance, and that the odds are against them, yet virtually hinder their prospects of success by their pessimism and failure to recognize what is in store for them if they would only hopefully and energetically persevere.

We should all aim at the goal of success with a determination of achieving the object of our ambition, and we in all human probability will approach at least very near our aim and at any rate, have the satisfaction of feeling that we have achieved something, without giving way to the nightmare of pessimism, which haunts the grumbler and despondent one.—*Canadian Druggist.*

Tincture of Myrrh.

By George F. Merson.

In the present Pharmacopœia, percolation as a means of exhaustion for drugs is much more largely employed than in the previous one, and I thought it might be interesting to see whether any special reason existed as to why tincture of myrrh, which was made by maceration and percolation in the 1885 edition, should, so to speak, take a backward step, and revert to maceration

only. On the score of economy, which, efficiency being always kept in view, is an important feature in the manufacture of spirituous preparations, percolation gives a smaller loss of menstruum through evaporation, and a more perfect exhaustion, than does maceration.

The increased proportion of gum resin ordered in the —present formula (4 ounces per pint, as against 2½ ounces previously) cannot be held as a reason for the change, as it is well known that, weight for weight, percolation will more thoroughly exhaust a drug than will maceration, provided always the substance is suitable for percolation—this, myrrh is. The Pharmacopœa orders myrrh in *coarse powder* and maceration for seven days in three-fourths of the final volume of 90 per cent. alcohol; filtering and washing the marc with more alcohol to produce the required volume of the tincture. The question here arises, what is a coarse powder? I would have said without hesitation No. 20, and several *confrères,* on being asked the question, at once gave No. 20 as being their reading. Some even said 16 to 18 in the case of myrrh. On glancing over the Pharmacopœia, however, we find that three common numbers, "degrees of coarseness or fineness," are employed—viz., 20, 30 and 40. Higher than these we have "fine powder" and "finest powder" specified, the degree of comminution being left to the common sense of the pharmacist. Conversely we have certain substances ordered in "coarse powder," which we are justified in taking to mean of a degree or degrees coarser than No. 20, but certainly not so fine as No. 20. Had No. 20 powder been meant in Tincture Myrrhæ, why not say so? The assumption is that it is coarser than No. 20 that is indicated. However, suitable such a powder might be in the case of woody or fibrous drugs, it is manifestly unsuited to a compact resinous body like myrrh. I made no attempt to experiment with anything in a coaser state than No. 20, thinking that no useful end would be served by doing so. I have prepared six quarter-pint lots of tincture from, respectively, 20, 30 and 40 powder, using maceration in one set and percolation in the other. The following figures give comparable results:

MACERATION.

No. of Powder.	Sp. Grav.	Resin undissolved.
20	0.85044	8.2 p. c.
30	0.85090	3.7 p. c.
40	0.85192	1.7 p. c.

PERCOLATION.

No. of Powder.	Sp. Grav.	Resin undissolved.
20	0.85120	3.4 p. c.
30	0.85182	1.5 p. c.
40	0.85250	0.0 p. c.

It will be seen that percolation gives distinctly the better tincture. Not only is the specific gravity higher than that of the tincture made by maceration, but the percentage of undissolved resin in the exhausted marc is considerably lower. The time taken to finish the tincture is inside of 24 hours, as against seven day—an obvious advantage No. 20 powder macerated with frequent agitation daily and finished off according to official directions left 8.2 per cent. of resin undissolved. No. 30 powder under similar treatment gives a specific gravity and percentage of undissolved resin which closely approximate the results obtained by *percolating* No. 20 powder, the latter, however, having slightly the advantage—the gravity being a trifle higher and the proportion of undissolved resin somewhat smaller. No. 30 powder percolated bears practically a similar relation to No. 40 macerated, while No. 40 powder percolated is to all intents and purposes completely exhausted.

The only drawback to using 40 powder is the difficulty experienced in getting the myrrh to pass so fine a sieve, owing to its oily nature.

Then, again, for percolation it is too moist and cohesive when freshly powdered to get introduced uniformly into a percolator without packing too hard. If, however, the powder be allowed to stand over night in a closed vessel after sifting, it will cake somewhat, and can then be re-sifted in "free" condition, oxidation of the oil, which is fairly rapid, bringing this about. The powder now run into a conical percolator, slowly rotating this the while and tapping the sides gently all round afterwards, will allow the menstruum to pass rapidly, and by the time half the spirit has passed the percolate will be practically colorless. A small pad of cotton is put in the bottom of the percolator before filling. When most of the color has been discharged it is advisable to close the tap of the percolator, say over night, for maceration, and draw off the remainder of the spirit in the mornig. The marc may be pressed off, or the spirit recovered by distillation, although it is preferable to use about seven-eighths of the total volume of alcohol, drain, press off, adding pressings to the tincture and making up, if necessary, with more alcohol.

As the drug is exhausted before all the menstruum has passed through, there can be no objection to making up to bulk with spirit. It is no use attempting to displace with water, as can be done in Tinct. Zingiberis.

Consequent upon a paper read in November, 1894, by Mr. H. W. Jones, before the Midland Pharmaceutical Association, an exchange of ideas regarding the percolation of tincture of myrrh took place in the correspondence columns of the *Pharmaceutical Journal* between that gentleman and Mr. A. McKellar, of Glasgow. Mr. Jones advocated maceration and percolation, referring to the difficulty in getting uniform packing and freedom from air bubbles unless the drug was previously mixed with a considerable quantity of spirit and then transferred to the percolator. The air bubbles I do not think are of any moment, and if the creamy mixture is

poured into the percolator the coarser particles settle at the bottom, leaving the fine powder in the upper layers—exactly the opposite condition to that which should prevail to secure thorough exhaustion. Solution of the resinous principle of myrrh is so rapid that a percolator should be chosen, relatively large, compared with the bulk of powder to be operated on, so that the tendency to clog, which is troublesome when using No. 40 powder in a long column of marc, may be obviated. The depth of powder in the percolator should not be more than twice the diameter of the lower part of the percolater. If 30 powder is used, there is no trouble with clogging if care is taken in filling the percolator.

Specific gravity varies considerably in samples of tincture which I have examined.

Color gives no indication of the gravity of the tincture, or, if any, then in inverse ratio.

High colored tinctures are made from inferior grades of myrrh, and those having a high ash content will give a low spirit solubility. The specific gravity of one dark sample I found to be 0.8474, while the figure for a standard tincture should not fall below 0.851.

Specific gravity, however, is not of very much importance, as the percentage of moisture present in the crude drug, which is variable, will affect it to a greater or less extent, and it would be very easy to adjust a tincture to any given figure.

Iletzk's Great Salt Mines.

In a recent report to the state department at Washington, W. R. Holloway, United States consul general at St. Petersburg, gives the following interesting particulars concerning the remarkable salt mines of Iletzk, Russia:

"Iletzk is a small settlement 62 kilometers (38.5 miles) from Orenburg, in the region of the Kirgiz Steppes. Cossacks of the Ural and emigrants from old Moscovia established this settlement in the middle of the seventeenth century, when the rich stratum, containing from 70,000,000,000 to 80,000,000,000 poods (1,120,000,000 to 1,300,000,000 tons) of excellent mineral salt, covering an area of four square versts (1.75 square miles), was discovered. The depth of the mines has recently been ascertained to exceed 90 sagenas (630 ft.).

"In the beginning of the sixteenth century Bashkirs worked this layer in a primitive way. The Russian government built the Orenburg-Samara salt track, and from 1817 a regular exploitation of the mine has been carried on, first by convicts and since 1849 by free workmen.

"At present a company of Orenburg merchants holds these rich mines on lease from the government, but the work is not extensive. The yearly production does not exceed 1,500,000 poods (24,389 tons), because of the lack of good roads—the place having been inaccessible—but now that a branch of the railway of Orenburg-Tashkent leads to the mine, it is expected that the export will be largely increased. The salt is now worked by one enormous pit—a sort of cavern—at a depth of 57 sagenes (399 feet) underground. This excavation measures 112 sagenes (784 feet) in length, 12 sagenes (84 feet) in breadth, and 25 segenes (175 feet) in height.

"Eighty workmen are occupied in this cavern. Some trace new lines for work, others make canals in the direction marked, and when these reach the points indicated by the engineer the bed is blasted with gunpowder in the same manner as is used in blasting stone.

"A steam elevator serves for communication with the surface of the earth and for the carrying of salt. There is also a wooden screw staircase (485 steps), with platforms for rest. Owing to the salt walls, the wood of the stairs remains in good condition, and in course of time hardens more and more; iron parts, on the contrary, rust very soon. Dynamoes and steam engines are placed in special buildings on the surface, and serve not only for the lift, but also for the mill, which mechanically assorts the salt.

"Since the construction of the railway the excavation of four other caverns of the same dimensions has been planned."

PATENTS AND TRADE-MARKS.

The following list of recent Patents and Trade-Marks is reported by W. G. HENDERSON, Solicitor of American and Foreign Patents and Trade-Marks, Norris Bldg,, Washington, D. C. A copy of any of the following will be furnished by him for 15 cents.

PATENTS.

718,754. Washing machine. William G. Gibbons, Leytonstone, England.

718,778. Combined water-heater and washing-machine. Bennett Lungren, Alexandria, Minn.

719,022. Washboard holder. Benjamin N. Merrill, Woodford, Me.

719,185. Washing-machine. George V. Cesinger, Eagle Lake Tex.

719,881. Soap-granulator. Charles A. Samuelson and J. A. Lynn, Chicago, Ill.

720,146. Starching-machine. Leberecht Hoffman, Salzuflen, Germany.

720,506. Washboard attachment. Diocleation E. Van Gilder, Toledo, O.

720,535. Apparatus for manufacturing soap. John Schwechler, Philadelphia, Pa., assignor, by mesne assignments, to R. W. Cavenaugh, New York, N. Y.

TRADE-MARKS.

39,656. Certain Named Soap. Aug. Luhn & Co., Gesellschaft mit Beschrankter Haftung, Barmen, Germany. The word "Luhnit."

39,721. Soap. Friederich Adolf Richter, Rudolstadt, Germany, and New York, N. Y. The word "Pinon."

39,782. Laundry Starch. Keever Starch Mnfg. Co., Columbus, Ohio. The word "Buckeye."

LABELS.

9,724. Title: "Cube Crystal Gloss Starch." (For Starch.) Illinois Sugar Refining Co., Chicago, Ill.

AROUND THE SOAP FACTORIES.

News-items sent us by our readers will find prompt attention in this column

The Geyserite Soap Co. of Macon, Ga., has been organized, with a capital of $100,000.

The American Rendering Company, capital $3,000, has been incorporated at Kansas City, Mo., by George W. Huselton, O. N. Pratt, T. R. Marks and G .J. Mesereau.

The Geo. Janton & Sons Co. of Columbus, O., has been incorporated with a capital of $40,000, by Geo. Janton, Fred C. Janton, Alex. Janton, Christian Janton and Marie Janton, to succeed the firm of Geo. Janton & Sons.

Mr. Andrew Pears, of the world-wide soap, has purchased Gilbert White's house at Selborne, and so the famous property passes from *savant* to *savon*.—*Referee.*

John F. Bartlett, head of the soap manufacturing firm of Bartlett Bros., of Winsted, Conn., died on February 13, at the age of 82 years, after a brief illness. The deceased had been in continuous business in soap making in Winsted for over 30 years, except for a short time after his factory burned, about four years ago, when, after rebuilding, he resumed his old business. He was a man of quiet ways and esteemed by the community as a man of integrity and probity. Mr. Bartlett was three times married, his last wife having died 12 years ago. He also leaves two great granddaughters and one sister, who resided with him, and five brothers, one of whom was connected in business with him.

The Richards Pure Soap Co. has been incorporated with a capital of $50,000, to take over the business formerly conducted by D. Richards at Woodstock, Ontario. The members of the new company are D. Richards, A. W. Stone, Alby Robinson, Woodstock; Anthony Keenleyside and R. Blandford, London; Thomas Richards, St. Marys, and Albert E. Davidson, Paris.

Incorporated: R. Nofrils, New York, soap, candles and perfume; capital $1,000. Directors, J. S. Sutphen, M. T. Sutphen and L. A. Brown, New York.

The Anti-Board Soap Company, whose plant was destroyed by fire several months ago, is to be reorganzied and a new factory erected. The new plant will be built in South Memphis.

The Atlanta, Ga., *Journal* believes that a large new soap factory will soon be erected in that city.

The Seattle-Omaha Mineral Soap Co. has incorporated with a capital stock of $300,000. C. F. Ribertson, R. A. Willison, A. J. Calvert and L. S. Thomas are the incorporators.

Clemens A. Hahn, one of the founders of the Aladdin Soap Co., Sheboygan, Wis., died last month at his home in Rubicon, after a year's illness. He was born in 1865, and leaves a wife, three sons and one daughter.

E. T. Cole and F. O. Tainter of Pueblo, and M. Lingdal of Denver, have arranged to open a soap factory at Pueblo, in connection with a tallow rendering plant already in operation.

James Rutherford of Rutherford & Barnes, soap manufacturers at Brooklyn, N. Y., died last month as the result of a fall sustained some months ago. He was born in Scotland, 78 years ago, and leaves a wife and two daughters.

The Adolph Heller Company of Newark, N. J., is another newly incorporated concern. It will make and deal in soap of all kinds. Ida Heller, of 279 Plane Street, is named as the local representative, and the incorporators are Ida Heller, Leopold Jay and Leo. S. Samuel.—Adolph Heller, it will be remembered, died in January last.

James Tulloch, the manufacturer of Wisdom soap in Chicago, met his death on January 29th, by a piece of meat becoming lodged in his throat. The factory has been offered for sale.

John M. Davis of Cambridge, Mass., is reported on the point of dying from spinal disease. Mr. Davis was formerly employed by Charles V. Poor & Co., Boston,

wholesale dealers in paints, oils and drugs, and was afterwards associated with his father, Mason Davis, soap manufacturer.

Incorporated: The Fox River Grease Company, Appleton, Wis., to deal in grease, soap, boiler compounds, etc.; capital stock, $10,000; incorporators, George P. Hewitt, Hiram T. Kent, William C. Perry.

The Stewart Bros. Soap Company of Omaha, Neb., has been incorporated with a capital stock of $50,000, by J. T. Stewart, Jr., I. E. Stewart, E. S. Hearne and others. This incorporation is said not only to mean the immediate extension of the business and plant of the Getty company, but that the company also contemplate the erection in the near future of a large soap factory in Omaha. I. C. Bonham, secretary and treasurer of the company, states that a new building will be erected and that plans were on foot to establish in Council Bluffs the largest soap manufactory in Iowa.

A small specimen collection of fancy soap labels and wrappers reached us the other day, showing the latest achievements of the combined arts of lithographing and embossing. The specimens are the product of the Ketterlinus Litho. Mfg. Co., Philadelphia and Chicago, and show some of the most beautiful labels recently adopted by large toilet soap houses. Every one of them is a little work of art.

In the packing of oranges and lemons for the Eastern trade, California houses are forced to reject the thick-skinned, coarse-grained, over-sized fruit because a critical Eastern trade does not want this fruit; but it is a singular fact that these very oranges and lemons are richest in essential oils. A plant has been established at Pasadena, Cal., in the heart of the orange district, which will use this discarded fruit for the manufacture of oil. Just now, the orange season is at its height, and oil of orange is being made. When the lemon season is on, the same effort will be devoted to the utilization of the cull lemons. This plant is to be known as the San Gabriel Valley Essential Oil Co., and that part of its output interesting the drug trade is their concrete oleo resin of orange and lemon, said to possess a marked advantage over any of the imported oils.

Consumers of orange and lemon oil in this country have heretofore imported their oil from Italy, because only in Italy are these products made at a profit on account of the cheap labor obtainable. This matter of labor has heretofore prohibited the manufacture of these oils in this country, but the San Gabriel Valley Essential Oil Co., by a new machine process, claims to accomplish what is done in Italy with peasant labor, and at about the same expense. The originator of this process is Mr. E. J. Sheehan, formerly of the Sheehan Fruit Syrup Co. of Utica, N. Y. His process has already shown to be a success, oils having been made by it in the East for a year and a half. While these oils are made just as cheaply as the Italian oils, the manufacturers believe that they are superior in flavor, strength and keeping qualities. For this reason, the Pasadena company feel justified in asking a higher price for their oil than the foreign product brings. A member of the revision committee of the U. S. Pharmacopoeia has spoken very flatteringly of these oils, and in his report has emphasized the fact that they are more stable than some of the foreign oils.

The Pasadena company's plant is equipped with the finest specially built machinery, but although the operations are largely mechanical, during the present busy season more than 100 hands are employed.

The Markets.

TALLOW.—Market depressed, owing to slowness in demand. New York City in hhds. 5⅝ to 5¾e as to quality; in tierces 6 to 6⅛c; Country 5¾ to 6¼e as to quality.

GREASE.—Yellow, 5¼ to 5⅜c; bone and house, 5⅝ to 5⅞c.

COTTONSEED OIL.—Prime yellow sold in New York at 40½ to 41e; off yellow offered at 39½c, with 38½c offered.

COCOANUT OIL—Consequent upon the depression of tallow, trading in this oil has been somewhat slow. Ceylon, 6⅜ to 6½e for March and April arrival, 6⅛ to 6¼c asked; Cochin, 6¾c asked for small lots, 6½e asked for April arrivals.

CORN OIL.—4¾ to 5c; as to quantity.

PALM OIL.—5⅝e asked for prime red; 6 to 6⅛e for Lagos. Palm Kernel Oil quoted at 5¾ to 5⅞c for spot and about ⅛c less for future delivery.

OLIVE FOOTS.—Sales for spot at 6½e; 6¼e asked for early arrival.

RED OIL—6¼ to 6½c asked for Saponified; with but restricted demand.

Additions to Our Brand List.

Le Fameux 16
Le Fameux Rose de Seville 16
Le Fameux Violette de Sevill 16
Le Fameux Peau d'Espagne 16
Le Fameux Jockey Club 16
Sayf Syde. Sayf-Syde Soap Co., Cincinnati.
Wego 96
Hy-Lo 96
Royal Lily 16
Rose Immortelle 334
Violette Grandfleur 334
Heliotrope Ideal 334
Baby Mine 8

SUPPLEMENTARY LIST
OF THE
BRANDS OF SOAP MANUFACTURED IN THE UNITED STATES
Including also the Brands of Foreign Manufacture Registered as Trade-Marks in this Country.

NOTE: This list is compiled with the greatest possible care, but the publisher does not assume any responsibility other than to correct and to complete the list according to data obtained from official sources or furnished by the trade. Brands registered in the patent office as trade-marks or labels are given with the name of the party registering same. Brands or names marked * are those which were found to be used by more than one firm or the owner of which could not be ascertained. ☞ SEE THAT ALL YOUR BRANDS ARE ENTERED IN YOUR NAME.

344 Home Soap Co., N.Y.
345 Columbia Ref'g & M'f'g Co. Ltd, New Orleans.

Abrado, Floridine Mfg. Co., New York.
A Happy Home 4
Amazon Coco 337
Angelus 54
Antillia 2
Anty Up 340
Apple Blossom 337

Beauty Belle 115
Bell's Brown 343
Billy-Goat 340
Blue Chip 340
Blue C oud 2
Blue Coco 340
Blue Family 340
Blue Monday 340
Blue Olive 340

Calcutta Castile 337
Chlorine 340
Cleaneasy 286
Climax Chip 54
Cloth Pin 340
Cloths Pin 340
Credential Shaving Stick 16

Dactylis 11
Dermicura 327
Durango Best, Durango(Colo.) Soap Co.

Empress Eugenie 115
Empire Geranium 337
Eucryl Eucryl Ltd., Hull, England.
Evergreen 286

Facine 340
Fairbank's Primrose 2
" Scouring 2
" German Fam. 2
" Glycerine-Tar 2
" Mottled Germ'n
" Olive 2
" Navy Blue 2
Federal Family 1
Floral Feast 115
Flannel 2
Flip 345
Force, Cincinnati Soap Co., Cincinnati, Ohio.
Fragrant Honey 2
Frog 340

Gem Wash, Compound, Clara Pearce, Philadelphia.
Georgia Oleine 29
Geyser 343
Gloriola 29
Gold Seal Soap Flour 340
Goodhair, Goodhair Remedy Co., Newark, Ohio.
Green Olive Chip 340
Green Palm 340
Green Seal Chip 340
Gusher 340

Hard Maple 155
Helix 54
Hi Lo 96
Horse Oil Harness 340

Idyllwild 54
Ilo-Ilo 340
Iroquois Maiden 115

Jack & Jill 340
Jack Pot 340
Jewel 2

Kazan 343
Kimola, Bell Mg. Co., St. Louis, Mo.
King Solomon's Rock Oil S. Muross Jenkins, N. Y.

Lakeside (Scouring) 2
La Mariposa 54
Lasco Napthol 54
Last Long 286.
La Virtho, John S. Nichols, New York.
Lemola Toilet, Lemola Soap Co., Los Angeles, Cal.
Lemolive 54
Lemonine, E. H. Kraut, Cincionati.
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2707 NORTH AVENUE,
MILWAUKEE, WIS., U. S. A.

We have come into possession of a circular issued by one of the leading soap factories, in which dealers handling a certain one of its brands are informed:

1. That all fats have advanced in price during the past few years on an average of over 47 per cent., and that the cost of manufacturing soap has been correspondingly increased in consequence.

2. That notwithstanding this, the price of the brand of soap in question has been increased by only 3 per cent. (ten cents a box).

3. That many competitors, in their efforts to meet this low price, have made their soap of lesser quality than formerly, as well as become guilty of fraudulently giving short weight.

4. That their own brand remains unchanged in quality and weight, and in price, and this notwithstanding the fact that some of the manufacturers have recently announced an advance on their standard brands.

The only reason given in the circular just referred to, why, with an increase of 47 per cent. in the cost of fat, the price of the soap was increased only by 3 per cent., is that the firm "realizes the advantage of steady prices for an established brand." This evidently refers to the steadiness of the *retail* prices, since the wholesale price has been raised. It would seem, however, that it is not necessary to sell soap in boxes at the rate of 3 cents a cake, in order that the retailer may keep the price steady at 5 cents, or even 6 cakes for 25 cents; on the contrary experience has shown that too low a wholesale price encourages cutting between the retailers and therefore tends to unsettle prices rather than to keep them steady.

If our memory is worth anything at all, prices of soap throughout this country a few years ago were not such as to leave the manufacturer of standard brands 47 per cent. profit. Now that fats have gone up to that extent, the price of soaps *must* rise or else the conditions in the soap business will become decidedly more than merely unhealthy. It is not for us to say how any soap factory can afford to pay 47 per cent more for its stock and charge only 3 per cent. more for its soaps, than a few years ago. Certain it is that few soap factories could stand doing that for any length of time. And yet —"some manufacturers have recently notified the trade of an advance on their standard brands," but the price

of one prominent competing brand remains unchanged! What are you going to do about it?

With some firms trying to raise prices, some others not daring to do so, and at least one simply refusing to do so, and with fat going up while soap goes down, there will in the end only the choice be left of concerted action or stopping business before failure overtakes the weaker.

Another year has rolled over the soap manufacturers' association; it accomplished much temporary and even some permanent good. But it is high time that it take up its work again.

There is a feeling which animates many manufacturers that things simply cannot go on as they are and that in the end something or other must occur to improve the business. This reminds us of the sage advice when butter at one time was very high, to "spread the butter real thick on the bread; when all the high-priced butter will be eaten up, then we must in the end get the cheaper butter again."

Unless the trade rouses itself and agrees on reasonable methods, "something" will surely happen to improve the business—for the few that will be left yet.

Touching upon the same subject is a later circular issued by another soap factory, which argues that "the laborer is worthy of his hire," and states that this latter factory has therefore advanced the price of its soap more than 3 per cent. It also contains the statement 'that no garbage grease is used in this factory' and concludes with saying that "we do give premiums, for the people want them," or words to that effect. If there have been other circulars issued in opposition to the one just mentioned, no copies have reached us as yet.

In the SOAP JOURNAL of December last we took occasion to express ourselves somewhat generally on the subject of lying—having been asked to do so, in fact: now a reader who rather liked our views on the question, asks in a recent letter: "How far is the business man's lie excusable? Is it ever absolutely necessary to tell a lie in the conduct of business? Is it not a fact that a business man is considered a fool who spoils the chance of making a sale, by refusing to depart from the truth? I am quite sure your reply would interest many of your subscribers."

We have stifled a rising uneasiness at being so apparently naturally and as a matter of course appealed to as an expert on lying and, modestly realizing that editors know everything best, we hasten to reply.

Theory and practice are often at variance with each other; theoretically a lie is never justified; whether it will be in practice is what we are now to consider.

"Truth is mighty and will prevail"—but it does not prevail in the average business to any alarming extent. It is a sad but indisputable fact that competition in the average line of business is unscrupulous; life is often too short and customers too gullible to be convinced by the truth, and while the strictly truthful salesman is still endeavoring to make his prospective customer understand the truth, his less scrupulous competitor steps in and closes the deal. If it were only a question of an occasional sale, we should say that a business lie is not justifiable; but when it is a question of being entirely trampled under by unscrupulous competitors, then—unless we could get a paying job as a preacher or lecturer—we should be in favor of lying rather than starving. There are no rules without exception, and it may be best to illustrate by a specific example: Let us suppose we were buyers and wholesale dealers in molasses; the business in itself is a necessary and honest one; a wholesale grocer intends to order of us 50 bbls. of a certain grade; our competitors try to get the order away from us by all sorts of misrepresentation: the wholesale grocer lies to us about low offers from these competitors; in the end we know perfectly well that the wholesale grocer will mix these molasses and sell them as "genuine maple syrup." Thus surrounded by untruthful customers as well as competitors, a strictly, consistently, unalterably and everlastingly honest middle man would last in business about as long as the proverbial snow ball in hades. If he should try to get out of such iniquitous business and into some other line (which is very much easier said than done), he would find the said other line no better, very likely. To revert once more to our example: The lying wholesaler who beats our price down by false statements, and who buys our honest goods to sell them for something which they are not, may in the opinion of the Sunday school teacher be entitled to absolutely truthful statements on our part; and then let our less honest competitors step in and by their false tales gobble up the business and at the end of a long career as "prominent business men" leave to their children a magnificent business establishment in which our own children may work as porters and shipping clerks. At this stage the question might arise: Was it right to relegate our children to the rear rank in life, just because we felt it to be our duty to tell the truth to the most unscrupulous of our customers, even if it involved our own failure in life?

Space and time forbids going further into this subject, but we want to mention yet the strongest argument which we have saved up to the last, namely: Being less depraved ourselves than the foregoing lines may lead some truly good men to believe, we occasionally do tell the truth, and we can cite two actual instances which occurred in the last three months, where by telling the truth we not only injured our own interests materially, but actually also injured the parties whom we told the

truth; had we lied to them, we could have persuaded them to let us do them valuable service—for which they would have paid us; but when we told them the truth, they straightway discounted it in their own minds and went elsewhere.

If telling the truth injures both parties and benefits nobody, while by telling a falsehood both parties can be benefited without injuring any one, is it ever justifiable to tell a business lie?

Each case must be a law to itself, we think.

It would seem pretty tough not to wash a face in fifteen years, but this actually happened to "Big Ben," of London, and it took a whole week to do it. "Ben" is the great clock in the neighborhood of Westminster Abbey.

This little bit of pleasantry is from the *National Laundry Journal*, and we are wondering how the calculation was made by which it is found that it takes a whole week not to wash a face for fifteen years.

Pennsylvania newspapers in the last days of February announced that during March there would be incorporated the Pennsylvania Soap Co., with a capital stock of $625,000, and having for its object the purchase of soap factories in different parts of the country. We have not heard since of any such charter having been granted, and it is perhaps a significant fact that among those interested is named Chas. A. Miller, of Lancaster, and that the first rumor was to the effect that an endeavor to purchase the Miller Soap Works in Lancaster was being made.

As being chiefly concerned in the new company are named besides C. G. Eagle, of the Real Estate Company, Columbia; T. K. Beaver, Juniata; S. S. Gibble, Lykens, and Jacob G. Miller, Pittsburg.

It strikes us that the market quotations on soap factories must be rising pretty soon, if new combinations to buy them up continue starting.

And that reminds us of the United States Soap Corporation, started in New York some time ago. No single soap trust enterprise has ever before managed to keep before the public so persistently as does the concern just named. Early in March the New York *Sun* devoted to it nearly a column of small print, reflecting rather unfavorably upon the corporation, but kept throughout in that style, so well known to readers of modern newspapers, by which they can convey almost anything that is mean without actually saying so. A few days later there followed in the same paper what appeared to be the description of an interview between a reporter and Mr. F. E. Stripe, secretary of the U. S. Soap Corporation.

As trusts must submit to a great deal of criticism and publicity, we take the liberty to describe their controversy briefly, as follows, as it will interest and entertain our readers, even though it may not furnish much real information.

The *Sun* said, or at least to a not overattentive reader appeared to say, about this: "The *Banker and Investor*, a paper 'which prints things about finance,' is devoting much space to the U. S. Soap Corporation, printing a page advertisement of the concern's stock, and recommending the stock editorially to its readers. This financial paper, however, is run by Horace G. Stripe, a journalist, according to the city directory, and father of the secretary of the Soap Corporation. The advertisement in the *Banker and Investor* asserts that the purchase of the stock is 'a safe investment—no risk of loss; absolutely certain of large returns.' And there can be no possible risk in the investment, because, 'earnings from the present capacity of the new plant, when it is in complete working order, have been estimated, by conservative experts familiar with every branch of this industry, at from 25 per cent. to 80 per cent. per annum.'

"The advertisement goes on to state that 'the United States Soap Corporation was formed to take over stocks, the properties and other rights of the various soap companies, to control monopoly of the world's leading industry.' More than that, the great corporation, which purposes to provide the soap that shall lather the world, 'has already absorbed the O. C. Soap Company of New York, which controls the best soap and processes of manufacture of the present day.' Moreover, 'grocers and consumers holding stock in this corporation will sell and use its products in preference to all others.'

"The advertisement contains also a picture of 'Eastern Plant No. 1, Lodi, N. J.,' from which one might get the notion that said plant is about 200x300 feet, but a Lodi merchant informed the *Sun* that the actual size is about 50x70, two-story brick, formerly occupied as a woollen mill. The Lodi merchant is also quoted as saying: 'I believe they're making a little soap there, but I don't know how much. The building seems to be used mostly as a printing office. A paper called the *Banker and Investor* is published there and I guess most of the men employed at the factory are printers.' "

The foregoing are the main points of the original article in the *Sun*: in the second article in the same paper Mr. F. S. Stripe, the secretary of the U. S Soap Corporation, is quoted as making the following statements, besides the general objection to the first article as a whole:

"The officers of the corporation are: President, Clarence J. Lawson, proprietor of the Kenesaw apartment hotel, 202 West 103d Street, and one of the original owners of the O. C. Soap Company and the formula for making it; vice-president, Louis R. Britton, a prominent citizen of Newark, N. J.; secretary and treasurer, Frank E. Stripe, lawyer; directors, the officers named and R. J. Berdan of Paterson, N. J. Instead of only one building, the corporation owns eight buildings in Lodi, and the factory turns out 2,000 cakes of soap a day. The *Banker and Investor* is printed in the factory simply because

they have a printing plant for wrappers and soap labels, and so took the contract for printing the *Banker and Investor* in that department; only one man of those employed works on the paper. The property at Lodi is in Mr. Stripe's name, who bought it and transferred it to the corporation. The factory looks substantially like the pictures; perhaps not quite so well, but the picture was got up for an advertisement."

How far Mr. Stripe has been quoted correctly in that interview we have not ascertained. An output of about 2,000 cakes of soap per day can hardly be said to be an oppresive monopoly as yet, and so the Pennsylvania Soap Co. said to be anxious to buy up soap factories in different parts of the country will find several going concerns still in existence to whom it can make an offer.

You May Laugh.

EDITOR *American Soap Journal:*

In your valued JOURNAL of March 1st, 1903, in an article headed "May We Laugh?" reference is made to a patent I obtained in November, 1900, and therefore I hope you will permit me to answer A SUBSCRIBER. In doing so, I do not wish to become personal; I reply solely to the *spirit* which speaks in the essay referred to.

A good laugh is a good thing. It aids the digestion and makes us feel good all around, so laugh away, Mr. SUBSCRIBER, and then stop and reflect. There are two proverbs about laughing (I looked up Webster's definition of "hilarity"; better do the same): one says: "He who laughs last, laughs best," and the second one says that *too much* laughter distinguishes a certain class of people from the intelligent. The multiplication table example referred to shows your correspondent to be one of those very busy people who do not take the time to realize that one hour's deep *original* thinking is often worth months and years of hard work. It was after twenty-five years of incessant, hard, practical work that the writer came to that conviction. (I mention this in order not to be classed among theorists.) The multiplication table *has* been improved; it *has* grown, and very decidedly so! What would our large business houses do without the developed form of arithmetic? It is because I desire and hope to see American soap makers develop the art of soap making in a similar manner as the multiplication table *has* developed into Algebra, etc., that I take the time now and then to put my ideas on paper and forward them to the AMERICAN SOAP JOURNAL, and I see with pleasure that there is an increase in the number of those who feel as I do. Friendly discussions, like these, do much good in enlightening readers of this paper, provided they think over and "digest" what they read.

Instead of laughing over my patent, why did A SUBSCRIBER not accept my offer, made in this publication at the time I took out the patent, to send to those interested, free of charge, a sample package of my "Dry Dock Soap" (I hereby register publicly this novel name explained further on), and direct some sufferer with ailments of the feet to use it properly and then ask him whether he has ever met with an article so decided in its purifying action. I call the preparation "Dry Dock Soap" in order to remind people that ships, though rushing through oceans and thus getting the benefit of "invigorating salt water baths," still gather barnacles and must go into dry docks in order to have these taken off *by mechanical action*. Those who have seen and studied the human skin under a good microscope, know that "barnacles" gather there; they also know that it is full of furrows, wider or narrower, varying in different individuals, running in various directions, and that the various openings, pores, glands, ducts, have their outlets in these furrows, so that a superficial washing does not touch those places which need cleaning most. It was due to such and similar *observations* which led the writer to obtain one of those patents which cause hilarity. If the mere outlining of progressive methods causes laughter, what would be the effect if I would attempt to go into *necessary* details? As I do not desire to split the sides of my esteemed colleague, A SUBSCRIBER, I will close with a renewed offer to send him a sample, free of charge, if he will promise to use same as suggested and according to directions on wrapper accompanying same. There are millions of people making graveyards out of their skin; they bury, by covering with powders, cosmetics, salves, etc., the germs and secretions, while the improved products of soap manufacturers loosen, detach and envelop in soap lather everything not belonging on a healthy skin.

GEO. A. SCHMIDT, SR.

What Is It?

We are in receipt of the following letter:

American Soap Journal. Dear Sir. I will write you in the Regards of your publish but I have never seen one of Yours published. Will you please send me one Sample copy—of yours pub. I may like the paper of Yours and subscribe it. Please send sample copy and Price of Yours publisher. Yours for business.

PROF. J. TURNBULL MEDICAL
DRUG MINER OF PHARMACY
HOME MANUFACTURING WORKS
LEXINGTON, MISS.

Algerian Notes.

We take this means of acknowledging receipt of a letter, postmarked New York city, containing a short type-written account of the essential oil business in Algiers. As there is no sign to indicate from whom the communication emanates, it is against the rules of trade journalism to publish it in this paper. We should be pleased to learn who sent the letter referred to.

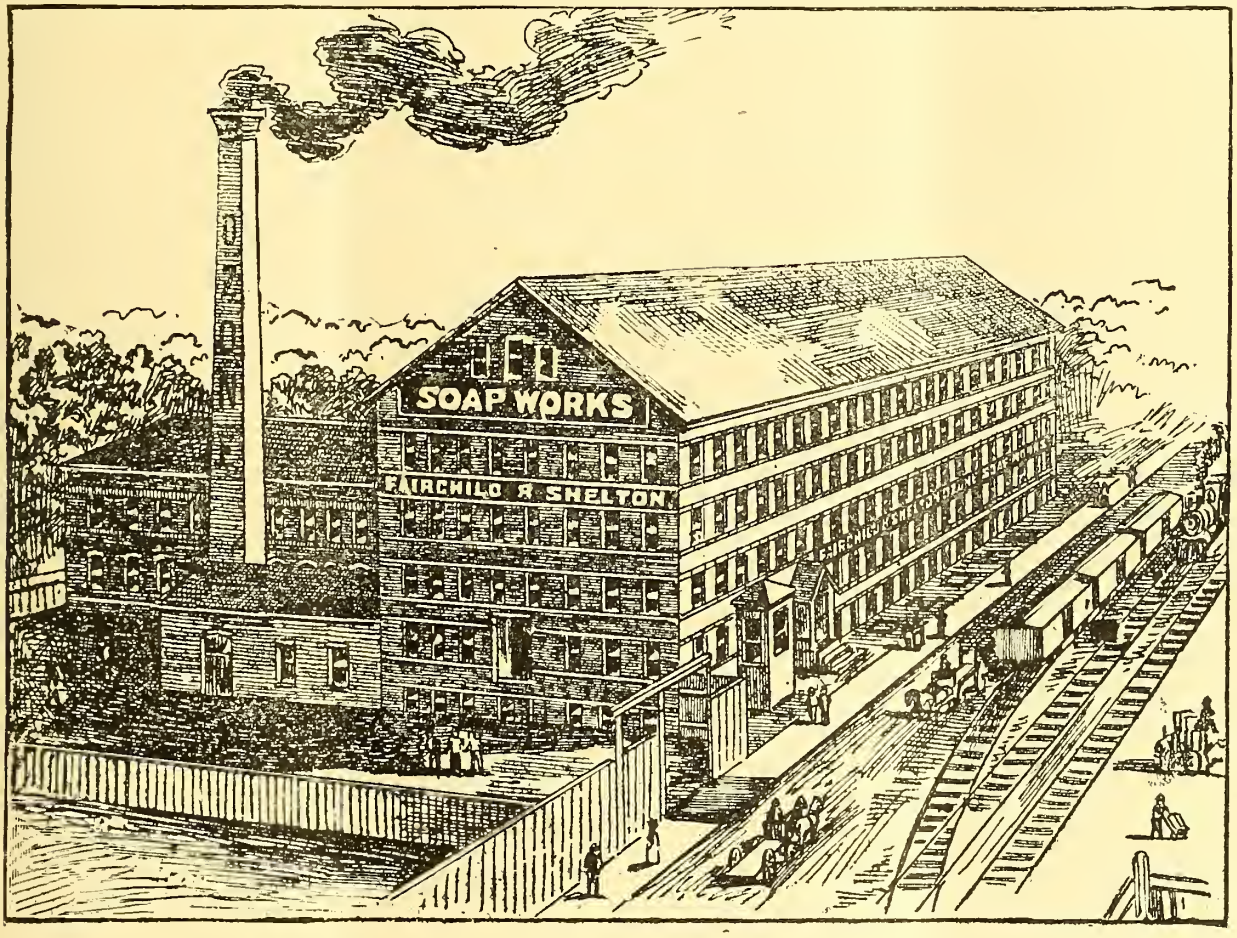
AMONG THE SOAP FACTORIES.

No. 7—Fairchild & Shelton, Bridgeport, Conn.

The factory of FAIRCHILD & SHELTON, located on Housatonic Avenue, in Bridgeport Conn., which is also known as the Ozone Soap Works, has been in existence over thirty years and is one of the older manufacturing concerns of that city. Under the management of the two partners, the firm was built up from practically nothing to its present creditable proportions. Besides a large output of soap, this factory sends out into the world a considerable quantity of washing powder and starch.

The firm of Fairchild & Shelton was formed in 1872 by Henry C. Fairchild and his brother-in-law, the late John C. Shelton, previous to which Mr. Fairchild was engaged in the grocery business. The firm purchased the factory of Leroy Barnum on Thompson street, which had previously been run as a soft soap, hide and candle factory. Fairchild & Shelton at first were dealers in hides and tallow, candles, and neatsfoot-oil and similar commodities. Gradually they increased the works, and became more and more committed to the manufacture of hard soap and the discontinuation of the other lines.

In 1887 their factory was burned, the fire attracting the attention of the whole city at the time. As it was a total loss, and the ground was entirely inadequate for their needs, they built their present factory on Housatonic avenue and the next year, in 1888, they commenced



business anew in the present building. Through attention to business, the quality of the soap and the premium system they have still further extended their business, and have added other lines. About 1895 they added the present top story of the building to make room for the powdered soap and starch department. A few years later they extended the factory in the rear.

The soap works have an aggregate floor space of about 35,000 square feet. The monthly output is about 4,500 cases of 100 cakes of soap each, besides the starch, wash-

ing powder, powdered soap, and other soap supplies in bulk.

At the works are made Ozone soap, Ozone starch, Ozone washing powder, Best Lily soap, which floats; powdered soap, long bar soap, chip soap, fulling soap and, in fact, about everything in the soap line. One of the products of the concern which is sent all over the world is the powdered soap canister, which automatically releases a quantity of powdered soap by pressing down a knob. This has been often imitated, but without approximating the successful canister made by Fairchild & Shelton. At the factory office there is a large collection of bungling devices made by others to serve a similar purpose, but all have defects which render their lease of life ephemeral.

One of the partners, John C. Shelton, we regret to say, died in November last.

Reply To Bivalent.

BY B. FAIR.

EDITOR: *American Soap Journal:*

Had I imagined that my shortcomings in the literary line might draw me into a discussion on logic, I certainly would have suppressed my feelings of compassion for the soap chemist.

In his article "That Soap Chemist," in last month's JOURNAL, "Bivalent" was so much occupied in charging me with inconsistent and irrelevant remarks, that he forgot all about the question at issue, "What harm has the soap chemist's work wrought in the soap industry," until he reached the last few lines of his article, when he speaks of the possibility of "yet solving the problem."

With apologies to all those readers who are not particularly interested in that portion of the discussion into which I am quite unwillingly drawn, and which has no bearing whatever on the original question, I will attempt to further explain the remarks to which "Bivalent" took exception. In justice to myself I claim the same privilege of departing as widely from the subject at issue, to make comparisons and to bring in matters irrelevant to the original subject, to as full a measure as has been employed by my severe critic.

In my article in the February JOURNAL, the sense of my remark, referring to the relation between the "boss" and the soap chemist, was negatived by the inadvertent insertion of the word "not"—an error which must have been apparent to any careful reader. According to my views the "boss" who is competent to replace any employee, from the soap chemist down to the soap wrappers, possesses many of the properties to make up the ideal manager. He can never be seriously embarrassed. He can soon train the suitable individual to fill any of the positions which he himself is able to fill temporarily. It would certainly be most satisfactory and economical for him to train the intelligent office boy to make such chemical tests as, according to his judgment, may be required, provided he has time to do this and to direct the application of the results of such tests and, lastly, to replace the office boy by another youngster. If he also has time to train some one in the art of soap boiling he will have the satisfaction of seeing the different operations carried out more strictly in accord with his own ideas than if he employs a soap boiler trained by some one else If the "boss" is also an expert bookkeeper, let him devise a system of book-keeping especially adapted to the requirements of the soap business. A system which will classify certain items under headings which will indicate at a glance results required from the accounting department from time to time—information which is usually very troublesome to make up in the ordinary method of bookkeeping. He can thus himself arrange a most important system of bookkeeping without calling to his aid the modern expert of systematized bookkeeping. In making these suggestions, I want to show what advantage such an ideal "boss" would possess. He could train men to replace the soap chemist, the soap boiler, the expert bookkeeper etc., etc., without doing the actual work of these individuals.

In criticizing my reference to "Glycerine left in the soap" and "Glycerine left in the stock," BIVALENT evidently did not consider that it may happen that a portion of the stock used in making a batch of soap may still be present in the soap as neutral fat. In this case the glycerine, or rather the glycerine forming portion, is contained in the unsaponified stock. The balance of the glycerine is contained in the soap. I believe that some soap boilers are in the habit of adding neutral stock before finishing, when, in their judgment the soap has retained too much strength after the strengthening change. The stock added at this period is not all thoroughly saponified.

Yes, it would be quite proper to let the soap chemist do the boiling, provided that there is not too much boiling to do and provided he is willing.

I had taken for granted that it was pretty generally understood that there are chemists who do general analytical work and that there are specialists among chemists, as well as among other professional men. The analytical chemist's aim is to become familiar with as many analytical processes as the extent of his practice is liable to require. He is usually familiar with the tests advantageously applicable in the soap industry. He is likewise familiar with the tests and analysis required by the progressive foundryman and the iron manufacturer. He is also called upon to analyze coal tar products, but he is not necessarily technically trained in any of these industries. The chemists technically trained in these industries are specialists. The terms: Analytical Chemist, Soap Chemist, Iron Chemist, Coal-

tar Chemist, etc., etc., thus convey a definite comprehension. Of course, they are all chemists. I believe that if "Bivalent" will again carefully look over the severely criticized article, he will find that the terms: Chemist, Analytical Chemist and Soap Chemist were each properly applied, and I cannot discover where one of the distinguishing terms could be substituted without entirely destroying the sense which I intended to convey.

Now, I think it proper to repeat here part of the sentence beginning my first article, which read as follows: Frequently the Soap Chemist has been referred to in a manner which, in my mind, prompted the desire to know "what harm the Soap Chemist's work has wrought in the soap industry." If "Bivalent" cares to say anything bearing upon the original question, I will try to reply without diverging from the subject, if possible. In closing I desire to remind him respectfully and impassionately that his views of my shortcomings and faults are not of general interest to the readers of the JOURNAL.

B. FAIR.

The Soap Trade In Australia.

Editor AMERICAN SOAP JOURNAL:

The federation of the Australian Colonies—"states" they are called now—is causing great changes in many trades, the making of soap among the rest.

Prior to 18 months ago each colony had its own tariff, except New South Wales, which had for a few years tried pure free trade, and a manufacturer, however ambitious, had to try for his share of the trade inside the ring fence of his own colony, without hope or prospect of greater growth than the local population gave, except he tried to compete in the Chinese and other Asiatic markets.

When the tariff was introduced in the lower house of the Federated States Parliament, all the old restrictions were swept away (except in Western Australia, where their old tariff ceases in five annual reductions). For a few months they sat still, apparently watching each other and talking of leaving "each other's territory" alone; but this could not last, and manufacturers began sending travelers out of their own states and trespassing on what had hitherto been the close preserves of others. And in several cases buying interests in or the business right of other concerns in states sufficiently far from their own, to receive the advantages of manufacture on the spot. These moves have of course led to retaliations and the trade is now in for a fight, the end of which may be, and is probably, far off.

And the result? No one really knows; but it would appear that it will end in larger trade for those who are up to date, and keep so, pushing with energy and advertising with intelligence, while many will fall behind or fall out of the race entirely—a survival of the fittest, no doubt; but not pleasant for the stranded or sunk. The writer has not been in the United States, but it would seem that conditions here must resemble those with you on a miniature scale. Hitherto each manufacturer has had to deal with a back-yard trade; now each has his chance at the business of a continent.

Yours etc.,

Na_2OOH_2.

This and That.

(Specially Contributed to the American Soap Journal.)

ACTUAL STRENGTH OF 58 PER CENT. SODA ASH.

Frequently the analysis of an average sample of 58 per cent. soda ash taken from a lot will indicate a shortage of from ½ per cent. to 1 per cent. in the strength. Usually it is found upon carefully weighing the lot that the weight has increased in just such proportion as to completely compensate for the shortage. It is well known that thoroughly dried soda ash absorbs moisture from the atmosphere very rapidly, especially that portion next to the bags. A sample taken from the center of the bag is usually up to the invoiced strength.

DOUBTFUL VALUE OF CAUSTIC POTASH.

Caustic potash, rather dark in color, was offered some time ago at about ½ cent per pound less than the market price of caustic potash of prime composition. The following analysis of same will indicate the real value of this material:

Caustic potash	37.6 per cent.
Carbonate of potash	42.7 per cent.
Water	13.2 per cent.
Organic matter and other impurities	6.4 per cent.

PERCENTAGE OF GLYCERINE PRESENT IN FATS AND PERCENTAGE RECOVERED IN ORDINARY SAPONIFICATION.

By analysis it was determined that the fats yielded 10.04 per cent. glycerine. The same fats were saponified in the laboratory and the spent lye (two brine washings and a small strengthening charge) neutralized and treated in the same manner as these operations would be carried out in practice. The neutralized and treated spent lye was evaporated and a glycerine determination of same showed that there was present a quantity of glycerine corresponding to 7.78 per cent. of the fats employed.

CAUSTIC POTASH OF DOUBTFUL VALUE AND A CONVENIENT METHOD FOR DETERMINING THE PRESENCE OR ABSENCE OF CAUSTIC SODA.

The very material difference between the price of caustic potash and caustic soda invites the admixture of the latter with the potash. The determination of the amount of potash by precipitation with platinum tetrachloride is most satisfactory, but requires very accurate work and considerable time. To determine the presence of caustic soda quickly, if present in any considerable quantity, it is only necessary to make a titration with normal and tenth-normal acid and then take the specific

gravity of the same solution. There is sufficient difference between the specific gravity of a caustic potash and caustic soda solution of the same strength to indicate whether the solution contains exclusively caustic potash or caustic soda or a mixture of both.

"Cutting" Prices—Who Is To Blame?

By Geo. A. Schmidt, Chicago.

After spending over a third of a century in the soap factory, the writer thought it might prove both profitable and interesting to play salesman for awhile and so study the salesman's side of our trade. The "drummer" is all too frequently blamed by his employers for selling at too low a figure and it is the purpose of this sketch to show, that the men at the desk at home and the practical soap boiler are fully as much, if n ot more, to blame for prevailing low prices, as is the man who has to transact business directly with customers and to smoothen out difficulties caused by those at home. The go-ahead drummer *must* have something to talk about, some special advantage over his many competitors, something *new* must be said every time he sees his patrons, or he becomes stale and will have a hard job to get orders, unless he can offer special inducements. If none are furnished he is obliged to quote lower prices, give better terms, higher discounts, nicer premiums, or throw in free of charge a quantity of goods. It is useless to fight against human nature or against natural laws.

What then does the average soap manufacturer furnish his salesman to present as something new to his customers? It is highly amusing for a practical man to listen to the arguments of some salesmen selling goods even for very prominent firms; yet there is so much to be said that would not only prevent customers from harping continually on the one subject of "lower prices, better terms," but would at the same time prove very beneficial to merchants as well as consumers. The proper use of well made improved soaps has so great an influence on the well-being of people, that practical demonstrations of the subject, together with scientific explanations form an inexhaustible mine of useful information. The branches of trade using soap preparations and applying the principles set forth in former issues of this Journal, are quite numerous, many trades use soaps of which the average soap manufacturer and his salesmen have no knowledge; much less are they familiar with the arguments to be used to make them buy the product of our trade.

Many brands of widely advertised Dandruff Cures, Skin and Scalp soaps, Shampoos, Shaving Creams, Medicated Soaps, etc., etc., are handled by "outsiders" at a good profit. Here is where a soapmakers' association, working under *proper* rules, could do much good to the trade. *Experienced,* skillful, wide-awake soap makers who have been close observers of prevailing conditions, now prefer to make specialties for other firms better able to protect their rights against imitators and counterfeiters than they could themselves. As members of a well managed guild the ablest soap makers would reserve their knowledge for their own associates, who would thus be enabled to furnish their salesmen with arguments, other than price cutting, *why* it would be most profitable for purchasers to patronize them.

Transparent Soap.

By G. H. Hurst.

No other kind of toilet soap requires such great care to be taken in making as transparent soap, whether it is made with or without alcohol. In fact, the defects from which this soap may suffer are numerous. It may occur, and often does, happen, that the soaps become cloudy and opaque, that they do not possess the requisite brilliancy and desirable light colour, or, again, they may cover with a white efflorescence in cold weather; some may be too soft and sticky, while others again are stained, etc. It is difficult to account for all these faults, and opinions differ as to the cause. One will find fault with the tallow, another with the cocoanut oil, while a third will place the blame upon the castor oil. Of the latter it has been asserted that it is the cause of most defects, especially when it contains lime. This last substance is not a common constituent of fats, but if lime be present in the soap, or, rather, in the fats, soap must be formed during the saponification, and the soap cannot be transparent. Lime can only get into oils and fats and then into the soap by carelessness or wilful adulteration, for it is not a natural constituent of fats; occasionally it is found in the bone tallow. Mucilaginous and vegetable matters may be, and are, present in vegetable oils, and animal tissue in animal fats, and the less of these the better. In glycerine, when it is employed, it may be present, because glycerine containing lime is sold; when glycerine is made by saponifying fats with lime, it naturally contains the latter. That only the best and purest fats and oils should be employed in the manufacture of transparent soaps is an axiom lying at the root of the case.

The water employed in dissolving the materials and boiling up the soap also plays an important part. Soft river or rain-water is excellent, but condensed water is far superior. Too little attention has been paid by soap-makers to the lyes used for saponifying the fats, for it cannot be immaterial whether the lyes are more caustic or contain more carbonate, because the causticity of the lyes should be regulated according to the fats used. Under certain conditions, one or the other may be proper. If, for example, the charge contains

more cocoanut oil than tallow, a much more brilliant soap will be obtained by using a lye containing more carbonate. It is for this reason that the finest soaps are obtained when stearine is also used, because this necessitates the employment of a carbonate lye if a milky and cloudy soap is to be avoided. Lyes of less causticity give soaps which are more pasty and have less consistency. This is, however, only true of those soaps which the use of a large percentage of cocoanut oil requires such lyes, while stearine, on account of its hardness, neutralizes this defect.

The above is still more true for soaps made without alcohol, for here the carbonates are to effect the transparency and fluidity of the soap.

Transparent soaps are more readily and satisfactorily prepared when they are considered as paste soaps of 200 lbs. yield. When this is done we will soon find that the much-discussed spots are nothing more than a natural marble, similar to that produced in mottled soaps by too much shortening and an excess of water.

This can easily be proved to be the case by replacing a portion of the tallow in a charge which will give a floeculent soap by stearine, when a perfect soap will immediately be obtained, for the simple reason that stearine requires more shortening to produce a marble than tallow. The same is true of cocoanut oil.

All natural waters contain lime, sometimes little, sometimes a good deal, and, worst of all, the amount is liable to vary very considerably, while a little may not have much effect on the transparency of soap; yet an amount, such as is found in some waters, is sure to form lime soaps that may affect the transparency of soaps. When circumstances are such that the soap-maker can only employ hard waters, it is well worth his while to soften them before used in the manufacture of best toilet, and particularly of transparent soaps.

The character of the caustic lyes has already been referred to. There are one or two points worth notice in connection with this subject. They should be quite clear from any undissolved particles of lime and alumina, impurities which are very commonly present in the lower grades of caustic sodas. If these get into the soap, they lead to mottling and cloudiness. There is only one way to deal with these—allow the liquor to stand and settle, and use the clear liquid lye.

It is a good plan to prepare the fats before they are boiled up into soap by heating them to about 100deg. F. to 110deg. F., sufficient only to melt the fats and to keep them melted for some hours, when much dirt, moisture, and other impurities, will settle out. The clear fat is run off and used.

By taking the precautions indicated above there should be no trouble of any moment met with in making the best grades of transparent soaps.

The Manufacture of Perfumes.

By Dr. Geo. C. De Lessing.

Processes and methods for the manufacture of perfumes, at present under the joint efforts of chemists and manufacturers of raw materials in Southern France, must undergo remodelling to a great extent. To understand the present situation a few preliminary notes may not be out of place.

In the second half of the last century, manufacturers of perfumes all over the world were dependent on floral odors (as the base of all preparations) secreted in so-called flower pomades—that is, in benzoated fat saturated with flower odors (oils) of various plants (cassie, jasmin, orange, rose, tuberose, violet, etc.) by process of absorption (enfleurage) or maceration. The art of preparing such pomades was brought to a high degree of perfection, and, as many firms are engaged in this industry, such products are for sale everywhere ready for further treatment by transferring the flower odors to a menstrum, generally alcoholic, suitable for retail trade. Perfumery factories, situated in various parts of the globe, procuring such pomades at a suitable season, devoted quite a time to re-working this primary matter in alcoholic menstrua—making so-called pomade washings. In the beginning, all the washings were done by hand, and so-called first-washing was ready only after thirty days of shaking. From about the year 1880 there were found in most factories so-called pomade- washing machines of various systems and proficiency up to the most ingenious pattern with four motions (up, down, to the right and to the left) which reduced the time of one washing to twenty-four hours. As the system of three washings prevailed, so, to complete a batch of three consecutive washings, seventy-two hours were necessary to wash, for instance, 100 lbs. of rose pomade, viz., to obtain 100 lbs. of the first (twenty-four hours), 100 lbs. of the second (twenty-four hours), and 100 lbs. of the third washings (twenty-four hours). Taking into consideration that about seven odors (more are often employed) are necessary for compounding leading perfumes, the ideal arrangement for seven odors was twenty-one pomade-washing machines to finish 700 lbs. of washing No. 1, 700 lbs. of No. 2, 700 lbs. of No. 3—in all, 2,100 lbs. in three days of twenty-four hours each. Such conditions necessitated a special department in a perfumery factory, where a quantity of 120,000 lbs. of washings were used during the year, and a day's work was only eight hours, hot summer weather excluded. Quite a staff of trained workmen, and a large installation of artificial power were also necessary.

Alcohol, agitated for a time with fatty matters, retains it, and the only way to separate it from alcohol is to subject such a mixture to a freezing process and filtration in the cold to precipitate the fat. On this

account, in the same premises which it was necessary to have refrigerating machinery, in which either ammonia was employed, or, as in the United States, where ice is cheap, mixtures of ice and salt. The latter necessitates the use of an ice-crushing machine and set of ice tools in perfume factories, where from one ton and upwards of ice were used daily for chilling purposes. Freezing of washings never, however, separates all fat dissolved in the alcohol, and its rancidity, which ensues after a time, ruins prepared perfumes. As experience taught manufacturers that, notwithstanding all the care used in purifying the alcohol, after the process of washing pomades, some residual fat remained and had disastrous effects after a time, so, in some establishments, a second (so-called controlling) process of freezing of all perfumes compounded from fatty washings was adopted, with the idea of preventing all possibility of perfumes clouding at low temperatures.

Continuous complaints of rancidity of pomades, the tedious process of extracting flower odors from them, and also the complicated methods of preparing the fatty matter in France, put before the interested manufacturers of primary matter the problem of a general improvement in the whole process. Milton was the first to suggest a process of extracting odors from flowers with the aid of carbon bisulphide, and his idea, now perfected, gave to the trade so-called concrete perfumes—a waxy mass containing the essential oil of the flowers. In natural concrete perfumes there is no grease, and the extraction of the flower odors contained in them by means of pomade-washers and subsequent treatment in the freezing apparatus— as wax is also retained by alcohol—gives the same series of consecutive washings, but without any danger of rancidity, as was the case with fatty pomades. The process of washing is reduced to nine hours with an improvement in general quality.

It should be noted here that the concrete perfumes of jasmine and orange flowers cannot, on account of their colors (yellow and dark-brown), be used in the manufacture of colorless perfumes such as white heliotrope.

Some difficulties in manufacturing and the desire to further simplify the handling of flower odors by manufacturers of perfumes induced further researches with the object of removing wax and isolating the odorous principles. Such products, in which the odoriferous oil of the flower is preserved in a neutral oil, are now on the market under the names of soluble concrete perfumes. Further improvements has also been made in preparing natural flower oils, free from wax. With such materials the process of manufacturing perfumes is much simplified.

Chemistry is not forgotten in supplying perfumers with products resembling natural flower oils. So-called artificial oils of rose, jasmine, tuberose, lilac, jacinthe, orange, lily of the valley, ylang-ylang, etc., are in the market at very reasonable prices, and find users in many countries as substitutes for real products with more success than would be expected. The variety of materials now offered to manufacturers of perfumes, and the simplicity with which the products can be made into perfumes by solution in alcohol, have reduced what was once an important department of the perfume factory into an easily worked compounding laboratory. Some of the old firms will continue their pomade-washings, as they say they are unable to procure from natural oils and concrete perfumes colorless liquids; but this objection will doubtless be done away with by inventors in time. It is now perfectly easy for every chemist and druggist to compound perfumes, provided he has a general knowledge of incompatibility and affinity of odors, which, however, can only be developed by experience and exercise of the sense of smell. * * *

The enormous progress which has been made in the chemistry of essential oils is slowly excluding the old rule-of-thumb man, who judged results solely by his nose from his hitherto unassailable position as manufacturing perfumer. The training of a chemist in dispensing is particularly useful in perfume compounding. Chemistry discloses, for instance, that most of the odorous principles are aldehydes, and that they are easily decomposed and altered in certain conditions, and, as in dispensing medicines, these untoward circumstances have to be avoided. Ketones and aromatic phenol-alcohols are more stable. Perfumed ammonia keeps well with ketone ionone, but loses perfume with aldehydes. Every chemist and druggist already has a general knowledge of chemistry, and it is not difficult for him to acquire particular knowledge as to the chemistry of essential oils. * * *

Drying Systems.

By C. O. Bartlett.

The question of drying very many different kinds of materials such as concentrates, coal, sand, clay, marl and all similar substances is getting to be a very important factor in the manufacture of products using two different materials; for instance, the manufacturer of cement first wishes to reduce his clay or even crushed stone to an even moisture, so that he may know exactly what he is using. He wishes to dry to a certain degree or per cent. of moisture so that the material is always the same. For instance, clay will vary all the way from 15 per cent. to 30 per cent., according to weather conditions; coal will vary according to the weather conditions from 5 per cent. to 15 per cent.; the same may be said of sand. It is very seldom that sand or coal will

contain 15 per cent., but there are times after a very severe rain storm that the rain will get frozen into ice after having impregnated the coal, causing an excessive degree of moisture as high as 15 per cent., and the same can be said of sand.

Almost any kind of material can be dried. The question is, What will it cost to do it? For instance, we have an inquiry today for the necessary machinery for drying distillery slops. Now, this material contains at least 90 per cent. moisture. That it can be dried there is no question, but the cost of drying it will be more than the worth of the material after it is dried. For instance, you commence with ten tons and take out nine tons of water, which leaves one ton, and the result is that the cost will be more than the material is worth.

We lately had an inquiry for drying peat in large quantities. In fact, we are getting these inquiries right along. A person wants a dryer for drying 100 tons of peat an hour, containing 80 per cent. moisture and reduced to 5 per cent. or 10 per cent. moisture. Now, this means that starting in with 100 tons of peat you have a finished product, after taking out at least 75 per cent. moisture, of 25 tons of dried peat, and the cost of drying depends upon the amount of water to be evaporated, and peat being a cheap material, the cost of taking out 80 per cent. will amount to about all the finished product is worth. This is especially true of peat, for the reason that it being of a combustible nature, must be handled with care and will not allow too great a heat, which means a greater cost of drying.

We generally calculate that one pound of good bituminous coal, or its equivalent for fueling, will evaporate from 8 to 10 pounds moisture. Therefore, to dry 100 tons of peat, containing 75 per cent. moisture, means to dry out 75 tons of water, and allowing one pound of coal for each ten pounds of peat, equals no less than 7,500 pounds of coal to dry it. Of course, the peat is an exception: that is, being of a spongy nature, contains a very large amount of water. Taking sand or concentrates, the amount of moisture would run on an average from 8 per cent. to 10 per cent., and in drying 5 tons an hour and allowing one pound of coal for every 10 pounds of water evaporated would mean 1,000 pounds of water, which would require only about 100 pounds of coal, and the cost of drying is very small. Same may be said of drying coal. But whatever is dried, the cost of drying it will depend largely upon the amount of water to be evaporated. Now comes the different kinds of dryers which we will class into three kinds:

First—Direct heat. What we mean by direct heat dryers is where the heat or fire is applied directly under the material to be dried, and the rotary dryer is usually used for this purpose. The material to be dried is placed in at one end of the dryer and a fire similar to a fire under a boiler is made directly under it which heats the product to an intense heat, causing it to dry rapidly. If the products of combustion will not injure the material to be dried by coming in contact with it, they can be passed first underneath and around the dryer and afterwards through the material being dried, reducing somewhat the cost of drying, for the reason that you get a little better results; that is, you get all the heat that there is in the coal you are using. While on the other hand, materials like peat and some kinds of clay and sand which would not allow the product of combustion to pass through the material, then the drying must all be done from the outside, and the cost of drying increased accordingly.

Second—The next style of drying is to first heat the air, either with a coil of steam pipe or with direct heat, and then pass this heated air through the material to be dried. This method is frequently used in drying salt. I distinctly remember of fitting up a small cheap dryer like this for a certain chemical company for drying what I call epsom salts. They were having great trouble in drying them and had put in a large amount of steam pipe with shelving over the pipes and then placed the salt on these shelves to be dried, but with very poor results, for to dry economically it is necessary to keep the material moving, and I simply took a large common stove, encased in with a sheet iron casing, leaving a place open for firing and taking out the ashes. The common stove made a great deal of heat, which was radiated into the chamber or oven, as you might say. The material to be dried was placed in a common wooden cylinder about 36 inches in diameter and 16 or 18 feet long, with ribs for elevating the material up and dropping it down. The heat was taken from this oven with a fan and passed through the cylinder in which the salt was placed. It was a great success and they are using this same system today.

Third—Steam Dryers. The steam dryers are very essential in some places, although not so economical as direct heat, for the reason that steam pressure of 75 pounds gives only about 300 deg. heat, and 100 pounds gives 330 deg. of heat, and this is inside of the cylinder, which means considerable less temperature on the outside, where the material to be dried must necessarily be. Therefore, steam pressure cannot be as economical as direct heat. Another great danger in steam dryers is that the least particle of a leak is a very serious objection, as it is somewhat difficult to make a steam dryer but what it is liable to leak somewhere, especially after years of constant use. The continued contraction makes is very severe on joints, rivets, etc., and only with the very best and most careful care can slight leaks be avoided.

Fashions In Soap.

"Fashions in toilet soaps," said the drugstore clerk; "why, there are more fads and fashions in toilet soaps than there are in millinery.

"You think probably that soap is soap, and that one kind is about as good as another, especially if the two cost the same price, and that the only thing requisite in any or all kinds of soap is that it will take off the dirt. You think that people will buy any kind of soap so that it does its work properly and don't roughen the skin or leave it harsh and dry. But that's where you're wrong. Do you know that right in this show-case and behind the counter we have over 200 different brands of toilet soap? Some drugstores have twice as many. Naturally we wouldn't carry so many different brands if we didn't have to. But because there is a demand for every single one of these 200 different kinds we have to keep them all in stock. Lots of these brands are new.

"The public is as fickle in regard to its favorite soap as it is in regard to its favorite song, and you know how long a new song lasts. Manufacturers are constantly inventing new brands and sending on to us. Some of them 'go' big and others fall flat. Sometimes the public taste runs to transparent soap and again to the perfumed kinds. Sometimes a heavily perfumed one is the rage and again it's an extremely delicate perfume that is wanted. Right now there is quite a call for soap powdered as fine as talcum powder and sold in a bottle with a perforated cover, from which it is shaken out just as salt is shaken from a salt cellar. Of course, there is always a steady demand for old brands of soap, many of the brands we have here being twenty-five, fifty, or even a hundred years old. At times there is a big call for different sorts of medicated soaps. You see, we have here in the case sulphated, carbolic acid, witch hazel, quinine, and other sorts of medicated soaps. There is always a demand from the women for various kinds of soap which are supposed to have beautifying properties. And then—excuse me a minute."

A young woman approached the counter and said: "I want a soap of a kind that I have seen at the homes of several of my friends. I don't know the name of the brand, but I would recognize the soap if I were to see it again." She looked all over the case and took a dozen different kinds up in her hands before she finally found the sort she wanted.

"You see," said the clerk, "that's it. That soap isn't better than fifty other kinds that I have here, and not so good as the soap that customer used to buy of me. But she has been visiting around at the homes of her friends and found that many of them happened to use this particular sort that she has just bought. She got the idea that this soap was the fashion and one might as well be dead as not in style, even in the matter of soap."

At this juncture entered another young woman, also on a soap-buying mission. She wanted "something new." The clerk showed her a half dozen different kinds and finally she selected a kind in a beautiful little white box with lilies of the valley embossed in gold on the cover.

"She bought the box, not the soap," said the clerk. "That is, she cared more about the manner in which the soap was wrapped and boxed than she did for the quality of the soap itself. Soap manufacturers realize this idiosyncrasy of the soap buying public and you can see here how handsomely they have prepared to meet the demand Toilet soap to-day is as pretty wrapped and boxed as the finest stationery. Naturally, more attention is paid to the boxing at Christmas time for then the soap is intended for a present. At that time especially the boxing of the soap is an important feature, and we have the most exquisite arrangements in white satin or pink silk-lined boxes and the like. The boxes are made in quaint shapes for there is a constant demand for this class of goods all through the year, although, of course, Christmas time is the biggest season."

"I want a soap," said a woman customer who now approached, "of the same perfume as the kind I use. I have a bit on my handkerchief, and I think I can pick out the exact odor if you will show me some of your brands."

The clerk brought out box after box, and the customer sniffed each cake and then took a sniff of her handkerchief. After about five minutes of careful sniffing she finally found the soap of the same perfume as the sort she had on her handkerchief and she immediately bought five boxes.

"That demand," said the clerk, "for soap of the same perfume exactly as the kind used by the consumer prompted the manufacturers to put out this arrangement. You see it is a handsomely made box containing a bottle of perfume with two cakes of soap perfumed with the same delicate odor. This makes it possible for women to know that she is not wearing two kinds of perfume, which, of course, would be extremely vulgar. We have soap here scented with every sort of perfume made. Many of the brands are named after the flower with whose perfume the soap is scented. Not only do we have soap scented with every sort of perfume made, but also of different shades of perfuming. Here is a soap that is fairly heavy with violet perfume, while here is another that has just the faintest suggestion of the violet odor." —*Chicago Tribune.*

"Dey say everything de world furnishes is useful," remarked Dusty Dennis.

"Dere is one thing dat is useless," grumbled Grimy George.

"What's dat?"

"De new soap mine out in Colorado."

The Determination of Glycerine In Crude Glycerines.

By Julius Lewkowitsch.

This paper, read before the Society of Public Analysts, recently, was really solely designed to show that by the author's acetyl method, in which the glycerine is boiled with acetic anhydride until completely esterified, the amount of combined acetic acid being subsequently estimated by a saponification process after neutralization of the excess acid, a more exact estimate of the percentage of glycerine present is obtaind than by Hehner's well-known bichromate process.

A long table of comparative results by the two processes were shown, and these being arranged chronologically, the curious anomaly became apparent that whereas Dr. Lewkowitsch's analysis in 1896-7 showed very satisfactory concordance between the two methods, those of 1900 exhibited differences that in some instances amounted to 3½ per cent. upon the same sample, the lower figure being always that by the acetyl determination, the higher one that by the bichromate process.

Other recently proposed methods of determining glycerines the author criticised destructively.

Mr. Hehner remarked upon the great ease with which glyceroltriacetate is hydrolized, so that unless great care be adopted, too low a figure is obtained; in fact, as the author's results proved, the acetyl tended to give too low, and the bichromate process too high a result; thus a chemically pure glycerine gave, according to Dr. Lewk's table, 99 per cent. by the former and 101 per cent. by the latter test.

Why, he asked, should the two processes agree in 1896 and not in 1900?

This was explained by the author of the paper upon the grounds that soap and candle makers had been forced, through the great rise in cost of raw materials of late years, to fall back upon inferior qualities of fats, with consequent production of increasingly impure glycerine.

"Nothing Venture, Nothing Gain."

Success in business is not absolutely certain. There is nothing certain but death. Business is an adventure —a venture, if one prefer to so designate it. Its success depends upon zeal and courage properly directed, and upon conditions that are beyond one's control, as of crops, manufactures, etc.—or, say, general prosperity, or the opposite of it. But, while business success is not a foregone conclusion, it is as nearly certain as anything human can be said to be certain, if one possesses the requisite to success. The man who is afraid to take chances in business never should go into business for himself. He would do best to serve under some one more capable than he of being master. Men take chances at marrying, in travel, in everything else and why not in business? It is the part of wisdom to safeguard one's self as much as possible, but there is nothing more true than that trite aphorism, "Nothing venture, nothing gain." A man must watch for opportunities, and seize such as seem to be least likely to fail. He should be cautious, but he should be brave as well. This is as true in advertising as in everything else connected with business. Not all advertising pays, but all judicious advertising pays. One must advertise in order to succeed; upon the manner of advertising will depend greatly the measure of success.—*The National Advertiser.*

The Preparation of Medicated Soaps At The Dispensing Counter.

(Abstract of a paper read before the Liverpool Chemists' Association.)

BY R. C. COWLEY AND J. P. CATFORD.

Although it is questionable if a medicated soap is of any remedial value owing to the short period of time it can remain in contact with the skin, still it appears to be the correct thing to order soaps containing a medicament.

A soap is an alkaline salt of one or several of the higher fatty acids. The saponification number of a fat or wax is the number of milligrammes of caustic potash required to saponify 1 gramme of the fat or wax. In event of books of reference not being at hand the following saponification numbers will prove useful: Linseed oil, 187-6; maize oil, 188-189; cottonseed oil, 191-196; sesame oil, 188-190; rape oil, 170-178; castor oil, 178-181; almond oil, 187-195; apricot kernel oil, 192-193; arachis oil, 189-194; olive oil, 189-192; palm oil, 202; cocoanut oil, 253-257; lard, 195-196; beef tallow, 195-7-200; sperm oil, 123-147; spermaceti, 107-128; bees wax, 95-107; carnauba wax, 93-95, Chinese wax, 63; Japan wax, 220-222.

The neutrality of a soap can only be satisfactorily ascertained by applying a solution of phenol-phthalein in strong alcohol to the freshly cut surface of the soap, for by dissolving it in water some of the alkali is set free; indeed the cleansing properties of soaps are entirely due to this. It, therefore, does not follow that the corrosive action of a soap on the skin is due to its alkalinity. The soaps made from fats are more easily dissociated than others; soap made from cocoanut oil is an example of one that is very easily dissociated; hence the practice of introducing a certain amount of this fat into some of the more expensive household soaps, so that a lather may be obtained in even comparatively hard waters easily, but the action on delicate skins is disastrous, and certain forms of skin diseases are said to arise from their use.

Fats can be easily saponified by aqueous solutions of alkalis; to saponify waxes an alcoholic solution must be used; the products of saponification are hard if soda be used, soft in the case of potash. In making soft soaps and the so-called "hydrated soaps" the glycerine is re-

tained; it is eliminated by salting out in making curd, mottled and yellow soaps.

Superfatted soaps are those into which an extra quantity of fats are worked in along with the perfumes or other additions. For the extemporaneous preparation of soap, it is evident that the elimination of the glycerine is impracticable, indeed, for a medicated soap the presence of the glycerine is no disadvantage. It, however, requires the use of exact weights of refined fats and caustic alkali. The addition of alcohol hastens saponification, and at the same time may be made the means of introducing the greater number of the medicaments ordered; others can be introduced with the caustic alkali if soluble in water and insoluble in the alcohol. The bulk of the alcohol goes off if the soap is left in a warm place for a little time. The product is, however, somewhat wasteful, but this may be corrected to a great extent by the addition of some wax.

A mixture of lard and wax had a saponification number of 150. It is evident that if this be calculated to represent the equivalent of caustic soda, and if a somewhat smaller quantity is used, the finished article will be superfatted. Fifty-seven grammes of the mixture previously melted together were put into a vessel on a water bath, and, when liquefied, 6 grammes of soda dissolved in the smallest quantity of water, and mixed with 30 cc. of 90 per cent. alcohol, was added, then rapidly stirred until the mixture was quite fluid. After leaving the soap in a warm place for two hours it weighed 90:4x grammes. This can be used as a basis for calculating the percentage of medicament, which, of course, will be only approximate. Absolute accuracy is unnecessary, and under the most favorable circumstances can hardly be attained. On a number of experiments the loss was about 10 per cent.

A working formula, which may be used as a basis for further experiment, is as follows:

Lard	100 gm.
Yellow beeswax	19-2 gm.
Pure caustic soda	15 gm.
Alcohol (90 per cent.)	60 cc.
1 per cent. medicament on this quantity =1.8 gm.	

Melt the lard and the wax together, dissolve the soda in the smallest possible quantity of water and mix it with the alcohol; let the alcoholic soda stand on a water bath in a vessel with a funnel in the neck until it is of the same temperature as the fat, then mix them together and stir until quite clear; pour into the mould while fluid.

It is important that the wax be free from paraffin, which may be ascertained by warming it in a small flask with alcoholic potash, having a funnel in the neck of the flask to prevent undue evaporation. A pure wax should be perfectly dissolved within half an hour.

The mould shown was devised by Mr. Pinnington, a student in the Liverpool School of Pharmacy.

Dry and Pulverized Oils.

Les Corps Gras Industriels reports the patenting of a curious invention relating to the preparation in a dry and pulverized state of fatty oils and of many other liquids. The object of so preparing oils appears to be to secure easier handling, ready mixing with other dry substances, etc. To carry out the process a weighed amount of the oil is made into an emulsion by means of gum acacia and water; to the emulsion is then added a certain proportion of calcined magnesia or carbonate of magnesia and the mixture is then exposed for several hours to the action of either cold or heat. There results a solid, hard mass which is next reduced to a powder. All substances that can be emulsified by means of gum acacia and water are said to be amenable to this treatment, *e. g.*, fatty oils, santal oil, creosote, etc.

So far as fatty oils are concerned, we fail to see any novelty in the process: in default of particulars regarding proportions used, we can only conclude that what is termed dry oils here is in reality only a powdered magnesium soap.

Candle Trade In South America.

The report for 1901 just issued for the Consular district of Rio de Janeiro states that composite candles show a decrease in imports of 668 cases, or 1,372 cases, against 2,040 in 1900. Belgium was the principal country of supply with 839 cases, France next with 733 cases, and other countries supplied 468 cases. The greater part of the candles consumed in Brazil are locally manufactured.

Pastes or Mucilages For Bottle Labels.

The material, whether paste, mucilage, cement, or what not (says the "Zeitschrift für die gesammte Kohlensaüre Industrie") used for attaching labels to bottles, should not merely have the requisite adhesiveness to hold the label firmly to place, under ordinary circumstances, but it should hold it fast in more or less damp or moist localities, should resist moulds and ferments, should not readily decompose, nor should it spot or soil the label.

The least suitable for bottle labels, and especially for those that are to be stored any length of time, and particularly in damp places, is paste, and for these reasons: It loses its adhesiveness very quickly, and the labels are apt to drop off, besides which, it is prone to fermentation with its attendant evils, spotting or rotting of the label. For these reasons it is always best, where possible, to avoid pastes for bottle labels.

Gum arabic solution (mucilage) is far better for this purpose. The labels are held very firmly, and the material is not so readily attacked by molds or ferments. It is, however, not to be recommended for labels which are exposed to long-continued moisture.

Excellent, as regards its adhesiveness, is dextrin in this direction, but it is easily affected by mould. Experiment, conducted at the Royal Institute for Fruit and Viniculture at Geisenheim on the Rhine, show that the addition of one-half of 1 per cent. of thymol to dextrin makes a great improvement in this respect. It does not detract from its adhesiveness, and the label remains in good condition. Thymol is most serviceable in the form of a 10 per cent. alcoholic solution, which can be cut with the water used for making the dextrin solution, as desired.

The best application of all, however, for attaching bottle labels is fresh egg albumen. Labels put on with this substance, and well dried at the time, will not come loose even when the bottles are put into water and left there for quite a while. Albumen, dry, is almost proof against mould or fragments. As to cost, it is but little, if any, higher than gum arabic, the white of one egg being sufficient to attach at least a hundred medium-sized labels (such as are used on soda bottles).

The Consumer Versus *The* Distributer.

It strikes the writer that the day is not far distant, when the man who distributes the world's products will receive some attention from the advertiser.

It's all very pretty to say, "Make the consumer demand an article and the distributer or merchant will stock it." But when you come to fifty articles of the same general character, all advertised widely, and as a result all inquired for to some extent, what is the retailer to do? Keep them all? About one hundred kinds of Breakfast Foods, seventy-five brands of corsets, fifty makes of suspenders, fifteen lines of hats, a hundred of shirts, five hundred of shoes, eighty of gloves, etc.

We think not. He will (horrible thought) substitute. He will stock one or two of the brands that strike him as the best, and perhaps one or two that pay him the best profit, and when a customer inquires for "Violence," he will say, "No, I do not carry that, but I can give you 'Ferocity,' which is about the same thing under a different name, in fact, I believe it is the better of the two." And the poor deluded customer, who is the merchant's friend and neighbor will cheerfully accept the substitute. And so on down the whole line substitution WILL, in fact MUST be worked if the retail merchant is to avoid ruin, and we think he is.

When that time arrives, or rather when the subtle advertiser realizes that it is here, for it is, and is daily becoming more numerously so, the neglected distributor will be the courted one and the trade journal will inherit the earth.

In the meantime the few early birds who usually get the succulent worm while he is still bathed in the morning dew, are obtaining some very nice results, and getting some long time leases at low rates upon very liberal slices of this terrestial sphere.—*The Ad-Writer.*

Coined Names

The Adviser says: "Be wise—do not advertise for the benefit of your competitors. Put a coined trademark on your goods and advertise your own business."

To this advice the New Idea remarks:

There is little doubt that several men in the proprietary medicine business today would be a good deal richer than they are if they had done that, many years ago. Advertising a purely descriptive title is up-hill work, if you expect to build up a business of national dimensions. Brown's Burdock may be made a big seller by the right kind of advertising, but at the same time Jones' and Smith's and all the other fellows' Burdocks are getting some benefit from the same advertising. The history of the sarsaparilla business supports this theory admirably.

Still there are indications that the public is becoming disgusted at the jargon of strange words forced into its vocabulary, and it may happen that a coined name will become a disadvantage rather than otherwise.

Oleography As A Test For Oils.

It is well known that when oils fall upon water, they spread over the surface in films of various shapes. As almost every oil forms a shape peculiar to itself, it seems strange that but few chemists have utilized their knowledge of this, in order to find out whether a suspected sample of oil is really what it purports to be.

Professor Tomlinson first called attention to this class of experiments, and his discoveries have been enlarged by Dr. R. Carter, Moffatt Lecturer on Chemistry, Glasgow. This gentleman has given a full account of the whole process in the Chemical News (Vol. XVIII., No. 473).

However, the following method of procedure, give the best results: From a height of about 4 inches one drop of oil is allowed to fall upon the surface of water contained in a plate (9 inches diameter, 2 inches deep) quite free from dirt—being previously washed with cold water. As the oil spreads, zones of color appear which enlarge with the film. The colors, in nearly every case, appear to have red, yellow and green in the ascendant. After a certain period, which varies with different oils, the edge of the film begins to break, and it is at this juncture that great care should be taken to observe the manner in which the figure develops. In almost every instance, the breaking up of the edge, and the destruction of the circular form of the film, are accompanied by the formation of holes, all near the edge.

Dr. Carter, in his paper on the subject, says: "A slight tremor or shaking of the water, is detrimental to a perfect pattern. I have noticed that even a person coughing near the oil film deranges its conformation." A drop of sperm oil treated in the manner described, rapidly enlarges to a circular film of about 5 inches diameter. In 60 seconds, it breaks up into little holes near the edge, the center, at the same time, becoming perforated with holes, only somewhat smaller. The openings continue to expand, and, at the end of 30 minutes the film is entirely intersected. Pure olive oil spreads to a circle at once. The colors, as far as can be judged, appear in the following order: Red (broad band), yellow (narrow band), green (broad band). The figure ultimately attains a diameter of 4 inches.

In order to transfer these beautiful and useful effects to paper, one has but to lay a piece of glazed paper on the pattern, taking extreme care to drop it on flatly, so that the film is not damaged. Remove the paper, and place it on the surface of a plate of ink for a moment. Again remove, and wash well in running water. The cohesion figure is then reproduced exactly as it lay on the water.

Oleographs should be taken of oils of known purity and compared with those of suspected samples; and although this simple test will not be sufficient proof of genuineness or adulteration, it will at least form a valuable guide.

The New Contact Method for the Manufacture of Sulphuric Acid.*

BY PROF. SAMUEL P. SADTLER, PHILADELPHIA, PA.

The importance of sulphuric acid as the foundation of most chemical industries is generally impressed upon every chemical student. His attention is called to the fact that all the other mineral acids are obtained by its aid from the minerals or salts in which they are bound up in nature, and that many of the elements are also obtained by reactions in which its use is found to be indispensable. It is to be remembered, too, that some of the most important organic products are only obtainable by the aid of the concentrated or fuming sulphuric acid, as alizarine and artificial indigo. The question of its manufacture on a large scale cheaply becomes, therefore, of the first importance.

The chemical reaction underlying its production is an extraordinarily simple one. It merely involves the union of sulphur dioxide with an atom of oxygen to form sulphur trioxide, and this takes up moisture with avidity to form the molecule of sulphuric acid. While this reaction of sulphur dioxide and oxygen is an exothermic one, it takes place very slowly, unless aided by some catalytic-acting material. In the well-known lead-chamber process, this material acting as the carrier of oxygen is a mixture of the oxides of nitrogen, obtained by the decomposition of nitric or a nitrate. This process, after having served for over a century as the only one capable of being used on a manufacturing scale, is likely to be replaced in the near future by what seems to be a simpler one, although there is no difference in the fundamental chemical reaction. It merely replaces the gaseous carrier of oxygen by the use of a solid contact material, which by its catalytic action brings about the same change of sulphur dioxide to sulphur trioxide. There is this advantage, however, that these contact substances, acting at a higher temperature, can bring about the change in the absence of water and thus produce at once a stronger acid than chamber acid, or even sulphuric anhydride itself as a direct product.

In an address before the German Chemical Society, delivered October 19, 1901, and printed in full in the *Berichte der deutschen chemischen Gesellschaft*, XXXIV, page 4069, Dr. R. Knietsch, of the Badische Anilin- und Soda-Fabrik, gives an account of the manufacture of sulphuric acid by the new "Contact Method" now manufactured on a large scale. As this is the first detailed account of the new process, now being largely adopted by the manufacturers of sulphuric anhydride, and promising to replace the time-honored lead-chamber process for all grades of sulphuric acid, wherever new plants are being designed, it will be well to give its substance for general information.

The first discovery of the catalytic action of a solid body in the formation of sulphuric acid was made by Peregrine Philips, Jr., of Bristol, Eng., who took out a patent for the use of platinum in this connection. Seventeen years later, Schneider, a Belgian chemist, announced the catalytic action of pumice stone and thought that he had solved the problem of the ready formation of sulphuric oxide by its means, but the promise was not realized. In 1846, Julliion patented the use of platinized asbestos as a catalytic agent, but it was not used in connection with the manufacture of sulphuric acid until later.

Wöhler and Mahla later discovered the catalytic action of the oxides of copper, iron and chromium, but the discovery did not lead to any practical process.

The next step in advance was made by Clemens Winkler, who used an exact mixture of two volumes of sulphur dioxide and one volume of oxygen to form the trioxide, which could then be combined with much or little water, according to the strength of acid desired. This method was successfully applied to the manufacture of fuming sulphuric acid. For this purpose he heated ordinary sulphuric acid, which, on decomposing, formed water, oxygen and sulphur dioxide, and condensed the water. The oxygen and sulphur dioxide, in the presence of the contact mass, then united to form sulphur trioxide. It was, however, not considered possible to use

furnace gases direct, and for the manufacture of dilute acid it could not, of course, compete with the chamber process.

The Badische Anilin and Soda Fabrik, however, took up the effort to carry out the reaction, utilizing the sulphur furnace gases, and found that the dilution of these gases with nitrogen, contrary to Winkler's view, did not interfere with the reaction. They found that the presence of small quantities of solid impurities in the gases did interfere and hence the mixed gases had to be led through cooling and condensing tubes for quite a distance before allowing them to pass over the contact mass. In fact, the greatest care had to be taken to eliminate a variety of impurities, which if present speedily rendered the contact mass inactive.

An examination of the furnace gases showed that, while the action on the contact mass was due partly to the presence of antimony, bismuth, lead, zinc and other substances in small quantities, the most injurious substance was arsenic, which was able, when present only to the extent of 1 to 2 per cent. to poison the mass and render it entirely inactive. The removal of the small amount of arsenic trioxide present in the gases as a mist was a problem which had been studied by many chemists, but had never been successfully solved.

After the expenditure of an immense amount of time, patience and money a method was devised by which, through cooling and washing and other processes, the exact details of which are not given, the gases were absolutely freed of all impurities, especially those in the solid condition. It was found that the ease with which the solid particles could be precipitated depended largely upon the rate of cooling and washing and other processes. Although it was supposed that acid of a concentration of 90 per cent. could not act on iron, or, if so, would form sulphur dioxide, the decrease in power of the contact mass, which only began to appear after weeks or months, was shown to be due to the formation of hydrogen from the iron and sulphuric acid and the action of this on an arsenic compound to form arsine. Even the trace of arsenic contained in the small amount of sulphur, which passed through unprecipitated, was sufficient to injure the contact mass. But this was easily removed, as was also the sulphuric acid which was formed in the furnace and which before had acted on the iron and the arsenic compounds by spraying the gases after they issued from the furnace where the pyrite was burned.

In the technical preparation of the fuming acid very little attention had been paid to the heat evolved when sulphur dioxide and oxygen combine, although it amounted to 22,600 calories. It was shown that the commonly accepted idea of the necessity of heating the contact mass very high, in order to produce the combination when the the diluted furnace gases were used, was incorrect, and that both the yield and the life of the mass could be increased if the tubes containing it were cooled in order to carry off some of the heat generated in the chemical combination of the two gases. A form of furnace was devised, something like a tubular boiler placed on end, and the contact mass arranged in the upright tubes of the furnace in such a way that the pressure and amount of surface of the mass exposed in each tube was the same. Under these conditions the process is a continuous one and the mass retains its full power for a year or more.

The ordinary method of absorbing gases by passing through a series of vessels containing water or dilute acid would not entirely remove the sulphur trioxide even when a number of the absorbing flasks were used; but one vessel containing acid of 97 to 98 per cent. sulphuric acid absorbs it instantly and entirely.

In order to keep the concentration at this point the excess of sulphur trioxide is removed from time to time or water is added. By the method just described the experimenters were able to obtain acid of any concentration, and mixtures of the acid and sulphur trioxide in all proportions.

Although the amount of product formed is not directly dependent upon the nature of the contact mass, yet the latter must be one which will give the greatest efficiency at about 450° C. All substances which reach their highest efficiency above this temperature will never cause a quantitative yield, no matter how long the gases may be kept in contact, as they will be partly regenerated if they have first combined. The only substance which fulfils these conditions is platinum, even members of the same family not showing an equal efficiency. The introduction of this method has enabled the Badische Anilin- und Soda-Fabrik to increase the yield of the anhydride from 18,500 tons in 1888 to 116,000 tons in 1900.

The incentive to the development of this practical contact was the need of anhydrous or fuming sulphuric acid for the cheaper manufacture of organic products like alizarine, and especially the new synthetic indigo, but the process now developed is able to compete advantageously with the chamber process for all grades of sulphuric acid and the close of the nineteenth century undoubtedly sees the old and familiar lead-chamber doomed to early replacement by a simpler form of plant.

Olive Oil In Spain.

Consul D. R. Birch, writing from Malaga, says that the Spanish olive oil is probably more in demand this season than for years past. This condition arises because of the partial failure of the Italian crops and the desire of Italian exporters to meet the demands of their foreign trade by supplying the Spanish product.

A small yield of olives usually follows a large one, but a comparison with the unprecedented production of 1901

in the provinces of Cordoba, Jaen, Seville and Malaga, which resulted in the pressing of 3,500,000 arrobas (14,920,500 gallons) of olive oil last year shows that the crop of 1902, from which the present oil is now being pressed, is not much less, being estimated at 3,000,000 arrobas (12,789,000 gallons).

At this writing the olive oil season is at its height and three-fourths of the immense crop of last year has been sold. While the 1902 price differs but little from that of a corresponding date last year, the average rate this season shows a slight increase. Shipments made on January 28, 1902, brought $146 to $151 per ton of 1,058 kilograms (2,332.4 pounds), cost and freight at New York, while the steamer leaving Malaga for New York on a corresponding date this year carried olive oil which sold for from $148 to $154.50 per ton.

Local exporters are seeking to create the impression that the sales to the United States this year are considerably under those of the season of 1902, but a glance at the invoice figures in this consulate shows quite a contrary condition. From Oc. 1, 1901, to Feb. 1, 1902, 1,625 petroleum barrels of olive oil were exported from Malaga to the United States, while from Oct. 1, 1902, to Feb. 1, 1903, invoices have been taken out for 9,240 barrels, or more than five times that of last season.

Malaga olive oil merchants say that the crop of Italy was badly damaged by unfavorable weather, frost in April last killing many blossoms. Italian exporters are consequently buying much Spanish oil, mixing it with American cotton oil, and exporting this concoction to the United States as representative of the Italian product.

In quality this year's oil is not considered to be quite as good as that of last year, as it contains a trifle more acidity. At present Malaga olive oil exporters have an abundant supply in their cellars, but they complain that the sales throughout Europe are not as great as at the same time last year.

Usually the sales to Russia, where great quantities of olive oil are used in religious observances, and to other parts of Europe are made during April of each year; and while a definite forecast of the fluctuation in prices cannot now be made, the markets of previous years have been affected later in the season by European demands, and there appears to be no reason to assume that opposite conditions will prevail this year.

Society of Chemical Industry.

The annual meeting of the Society of Chemical Industry in 1904 is to be held in this country, the parent society of Great Britain having accepted the invitation of the N. Y. Section of this society, to hold said meeting in New York City. The following circular letter will be sent to chemists of the United States:

"The parent society has accepted the invitation of the New York Section to hold, in the summer of 1904, the annual meeting of the Society of Chemical Industry in New York City, under the proposed presidency of Sir William Ramsay.

"A special committee has been appointed by the chairman of the New York Section to arrange the details of this visit.

"After disposing of the business of the society, the intention is to take our foreign friends on a tour through the country, stopping at Philadelphia, Washington, Pittsburg, Chicago, Buffalo (Niagara), the objective point being the St. Louis Exhibition, and probably Boston. Local committees will be formed in all these cities to provide for the reception and entertainment of the visitors, inspection of factories, etc.

"It is expected that contributions from manufacturers interested in chemistry will help to defray the heavy expenses which will be caused by this visit.

"We would be pleased to obtain any suggestions from our members and their friends concerning any of the details of this important matter. Especially is it necessary to have the names of those whom it would be advantageous to appoint on the local committees in the cities named and the names of those able and willing to subscribe generously, so that we may successfully carry out the proposed programme. Many of these may not be members of the Society of Chemical Industry, and while it is not essential, it is very desirable to have them join.

"It is expected that some 150 of the most prominent men connected with the industries of Great Britain will attend this meeting, which is the first in the history of the society to be held in the United States and at which it will elect an American president for the ensuing year.

"Undoubtedly a more representative association of technologists, manufacturers and scientists never visited our country in a body.

"Let us be hospitable and reciprocate the fraternal spirit shown us by making the occasion of the visit memorable and the meeting a pronounced success.

"The time before us is all too short, as our guests must arrange for steamer accommodation, and we for accommodations and transportation."

Extraction of Oil from the Coco Farm.

The Revista Financiera y Commercial, of Buenos Ayres, draws attention to one of the dormant resources of Paraguay existing in great abundance in that country in the shape of a palm tree, wrongly called "Palmera Paraguaya de Coco," whose Latin name is Acrocomia mboeaya. The kernel of the nut furnishes 40 per cent. of oil, worth £16 per ton. It is stated that up to a few years ago very little attention was paid to this palm, the small quantities of oil obtained from kernels shelled by hand being solely used by local soap makers. The administration of the Banco Agricola, of Asuncion, has

now taken the matter in hand, and after sending out numerous samples of the oil to leading soap makers in Europe, found that there would be a good market for it if only it could be produced at the right price. In order to do this a machine would be required which would remove the soft part of the fruit and free the kernel from the extremely hard shell of the nut. These machines would have to be worked by hand and be moderate in price, as they would be distributed to the country folk all over the republic. It is also stated that Herr Christian Heiseeke has invented a machine for that purpose, but it is not known as yet if the problem has been solved in the right way. As the Paraguyan coco palm grows in enormous numbers, it is almost certain that a large number of these machines will be required, and observant business men in the Paraguyan Republic see in the export of palm oil one of the best sources of income of that country.—Bulletin Am. Republics.

PATENTS AND TRADE-MARKS.

The following list of recent Patents and Trade-Marks is reported by W. G. HENDERSON, Solicitor of American and Foreign Patents and Trade-Marks, Norris Bldg,, Washington, D. C. A copy of any of the following will be furnished by him for 15 cents.

PATENTS.

721,021. Soap-lock. Justin C. Corey, Minneapolis, Minn.

721,179. Washing device. Henry Graham, assignor to D. J. Seaman, New York, N. Y.

TRADE-MARKS.

39,809. Scouring-soap and soap-powder. The Floridine Mfg. Co., New York, N. Y. The hyphenated word "Lustr-Ite."

39,841. Starch and starch compounds. Ad. F. Lahusen, Hamburg, Germany. The representation of a man clothed in medieval garb holding a trumpet to his mouth with his right hand, a banner being suspended from the trumpet bearing the letters "L H A."

39,846. Certain named soap. The Pioneer Tar Soap Co., Dayton, Ohio. The word "Nysa."

39,847. Toilet and Laundry Soaps. Maple City Soap Works, Monmouth, Ill. The words "Two Maple Leaves" and the representation of two maple leaves.

LABELS.

9,789. Title: "Excelsior Washing Fluid." Charles Raab, New York, N. Y.

PRINTS.

623. Title: "Hasn't Scratched Yet." (For Soap). The Bon Ami Company, New York, N. Y.

624 Title: "Hasn't Scratched Yet." (For Soap). The Bon Ami Company, New York, N. Y.

AROUND THE SOAP FACTORIES.

News-items sent us by our readers will find prompt attention in this column

W. J. Gibson & Co., of Chicago, melters of tallow and dealers in all kinds of soap stocks, have removed to their new warehouse and office at the Union Stock Yards (938-944 49th place). They are well provided with telegraph wires direct to their office and with telephone (long distance, No. "Yards 999"). See their advertisement on last cover page.

To celebrate the opening of their new offices and warerooms the proprietors of Parfumerie Pinaud on March 5 gave a reception to their friends and customers in the Ed. Pinaud Building, at the corner of Fifth avenue and Fourteenth street, New York City. Mr. Klotz, the proprietor, made a special trip from Paris to attend the function.

More than 500 invitations were issued. Among those present were the consul-general of France, the president of the French Chamber of Commerce, representatives from the financial and commercial world, newspaper men, and a number of well known theatrical people.

The United States Potash Co., limited, has been organized at Detroit, Mich., to work a new potash deposit discovered near Cody, Wyo. The company has located several claims near an extinct geyser, and the preliminary work is said to be encouraging.

From an advertising pamphlet issued by Swift & Company are extracted the following figures referring to their business:

Capital, $25,000,000.

Packing plants at Chicago, Kansas City, Omaha, St. Louis, St. Joseph, St. Paul and Forth Worth.

Branch distributing houses in every city of importance in America, and representatives in over forty cities in Great Britain, and in the leading commercial centers of Europe, Asia and Africa.

1902—Cattle, sheep and hogs purchased, 9,339,792; sales, in excess of $200,000,000; shipments (car loads), 97,067; employes, 22,607.

Manufactured Product—Lard, 298,946,900 lbs.; wool, 6,605,969 lbs.; glue, 7,580,693 lbs.; butterine, 13,721,049 lbs.; tallow and grease, 38,569,613 lbs; oil and stearine, 51,316,060 lbs.; hides, 194,510,390 lbs.; fertilizer, 154,606,430 lbs.; soaps, 40,629,799 lbs.

A receiver has been appointed for the Allen B. Wrisley Company of Chicago. Much to the surprise, and we dare say to the regret, of the trade in general, this firm was admitted on March 16 to be insolvent and Judge Kohlsaat of the federal court promptly appointed the

Chicago Title & Trust Company as receiver. The latter has taken possession of the factory and warehouse.

The petitioning creditors are M. L. Barrett & Co., W. D. Messinger, and William K. Hilton, whose claims aggegate $772. Attorneys Friedman and Rogan represent New York creditors with claims of $40,000. The total indebtedness is estimated at from $250,000 to $400,000, with assets worth about $200,000.

The Dearborn National Bank is a creditor to the extent of $30,000. Other large creditors are W. D. Messenger, Standard Oil Company, Dodge, Olcott & Co., Poole & Brown, Stein, Hirsch & Co., and M. L. Barrett & Co.

A new material is advertised for the first time in this paper to-day, by the Jarecki Chemical Co. of Cincinnati, for the treatment of spent lye. Look it up.

Lysander Kemp & Sons of Cambridgeport, have purchased the laundry soap business of H. M. Brett of New Bedford, Mass., and the Beach Soap company of Lawrence has purchased the washing powder business of the latter.

Incorporated: Conkling Chemical Co., of Chicago. Capital, $125,000, to manufacture chemicals. Incorporators: Allen Conkling, Richard W. Yates and Herbert L. Parker.

The Harris-Hart Co. of New Haven, Conn., has been incorporated. Capital, $10,000. Incorporators, J. Wilder Howe, E. L. Howe, W. A. Harris and H. F. Hart, all of New Haven. Purpose to manufacture candy and perfume.

The Royal Soap Co., Cincinnati, O., has been incorated by F. Burkhalter, H. J. Lease and others, with a capital of $100,000.

The Portland (Oregon) Soap and Chemical Co., we learn, will be one of the firms exhibiting their products at the Osaka Fair, to be held this summer at Osaka, Japan.

Fels & Co. of Philadelphia, have brought suit against the Thompson & Chute Soap Co. of Toledo, Ohio, for alleged infringement of trade mark. The Toledo firm has placed on the market a product which it has named "Soap-Naphthol" and the Philadelphia firm claims that the latter has as its "most prominent feature an imitation of the peculiar and distinctive figure that appears upon their own "Fels Naphta" wrapper, and that the bar of soap naphthol also is stamped in imitation of their own product. They ask for an injunction against the Toledo firm and an accounting of profits that may have accrued from alleged violations of the rights of the plaintiff. Ten thousand dollars is charged as the estimated aggregate due.

In the change of their advertisement (on the front cover of this paper), Messrs. Fries Bros. make an offer and a suggestion which we trust will not escape the attention of our readers.

The Central Soap Mfg. Co. of Cleveland, Ohio, has been incorporated with a capital stock of $30,000, by F. L. Hattendorf, Charles Hattendorf, Matilda Faust, J. Gammel and Allison M. Gibbons.

Tellico Junction, a town seven miles from Athens, Ga., is aspiring to become a metropolis. A large tannery is being erected there, a $50,000 knitting mill is planned, and a Mr. Clark from Chattanooga, is said to be considering the establishment of a soap factory there.

The plant of the Opelika, (Ala.) Milling Co. and some adjoining properties have been purchased by northern capitalists who will erect thereon a large cotton oil mill and soap factory.

The Standard Perfume Co. has been incorporated at New York. Capital, $30,000. Directors, R. B. Vermilyea, F. T. Rand and E. A. Nash.

It is reported that Tillman & Bendel, a large grocery firm of San Francisco, are negotiating for the purchase of the large plant of the Standard Soap Works at West Berkeley. Mrs. J. W. Thomas, widow of the late Captain Thomas, is the president of the company at present operating a part of the works.

A strange story comes from Chicago, being told by the Herald of that city as follows:

J. E. Rastall, manager of a soap manufacturing company whose factory is at 220 North Franklin street, complains that during Saturday night and Sunday vandals damaged the plant to the extent of $3,500 in actual property and $170,000 in business loss. This, Mr. Rastall says, was due to insufficient police protection.

Saturday being primary day, the factory was closed at 4 o'clock. Shortly after, Mr. Rastall says, a gang of hoodlums, increasing in number from fifty to 300 and ranging in age from 7 to 19 years, entered the place and began the work of devastation. Stocks of soaps and perfumery, packed for shipment, were either demolished or removed to the homes of the raiders.

During the night there was a partial cessation of violence, but by 1 o'clock Sunday afternoon the gang, with more recruits, was again at its work. The door of the

business office was forced open and mail order lists representing an expenditure of $160,000 were dumped upon the floor or torn up. Valuable stock certificates were taken and arrearage claims valued at $9,000 were wiped out of existence, while office desks were demolished and their contents taken.

The gang then set fire to the building, and while the firemen were extinguishing the flames the young vandals stoned them.

Mr. Rastall entered a complaint at the Chicago avenue station, and Lieutenant Hanley, with Detectives Mullin, Abbey, Lyons and Matthews, arrested fifteen members of the gang, among them John, James and William O'Malley, who are said to be the leaders.

Most of the boys have confessed, but the O'Malleys remain obdurate, and yesterday James or "Licoriee" O'Malley attacked "Candy," as the McCarthy boy is called by his chums, and would have drubbed him for "squealing" had not Detective Abbey separated them.

The police say the act had no motive other than vandalism.

The Metropolitan Soap Co. of Toronto, Ont., intend building an addition to their works.

The Quick O Manufacturing Company of Waterbury been incorporated to manufacture and deal in washing materials. The capital stock is $50,000 and the incorporators are George J. Strobel and Robert Crawford of Waterbury and W. C. Kingbury of Roxbury, Conn.

Daniel C. Rogers, a life-long resident of Newburyport, Mass., died at his home, aged 76 years. Mr. Rogers was associated with the late Atkinson Stanwood in the manufacture of soap and Mr. Stanwood succeeded to the business. He retired several years ago. He leaves a wife and one daughter.

Gustave Franklin Swift, president of Swift & Co., Chicago, died unexpectedly on the morning of March 29, at his home in Chicago, at the age of 63 years, owing to an internal hemorrhage following an operation performed a week previously. The condition of the deceased for several days after the operation had been so very encouraging, that no apprehension for his safety had been felt until quite shortly before his demise.

Mr. Swift began his business life as a butcher and, building up the well-known firm, managed in the course of 45 years to accumulate a fortune estimated at between seven and ten million dollars. He was born in Sandwich, Mass., where he started a small butcher shop, but removed to Boston at the age of hardly 30. From there he removed to Chicago in 1875, and continued in the butcher business to which he added the shipping of cattle to the eastern market. In 1877 he conceived the idea of using refrigerator cars for shipping meat in place of live cattle, and thus became the pioneer of an industry which has since developed into enormous dimensions.

Still another death among the prominently known men in the soap trade occurred in Chicago last month. On March 27 there died, after a brief illness, Mr. N. K. Fairbank, founder of the N. K. Fairbank Company and of several other large concerns, at the age of 73 years. Mr. Fairbank was born in Sodus, Wayne County, N. Y., in 1829, but lived in Chicago for almost fifty years; he retired from active business several years ago. Seven children survive him.

An Iowa millionaire has just married a poor telephone girl, chiefly for the reason that she always answered his calls promptly and was careful to give him the right number. (Papers all over the United States please copy.)—*Boston Herald.*

The Markets.

TALLOW.—Market quiet but steady, New York City in hhds. 5¾c; in tierces 6¼ to 6⅜c; Country 6¼ to 6⅜c as to quality. Prime packers at Chicago sold at 6¾c and city rendered at 6½c.

GREASE.—Yellow, 5 to 5¼c; "B" white, 6¼ to 6⅜c; bone and house, 5¼ to 5½c.

COTTONSEED OIL.—Prime yellow sold in New York in small lots at 41 to 41½c; off yellow offered at 38c.

COCOANUT OIL—Ceylon, 6½c for spot, 6¼c asked for April and May arrivals. Cochin, 7c asked for spot and and 6¾c for April and May arrivals.

CORN OIL.—4¾ to 5c; as to quantity.

PALM OIL.—5¾c asked for prime red; 6 to 6½c for Lagos. Palm Kernel Oil 6½c for prompt delivery.

OLIVE FOOTS.—Offered freely; sales for spot at 6 to 6½c; choice grades 6¼ to 6⅜c; 6¼c asked for early arrival.

RED OIL—6 to 6½c asked for saponified; supplies moderate, with a fair demand.

Additions to Our Brand List.

Le Fameux 16
Le Fameux Rose de Seville 16
Le Fameux Violette de Sevill 16
Le Fameux Peau d'Espagne 16
Le Fameux Jockey Club 16
Sayf Syde, Sayf-Syde Soap Co., Cincinnati.
Wego 96
Hy-Lo 96
Royal Lily 16
Rose Immortelle 334
Violette Grandileur 334
Heliotrope Ideal 334
Baby Mine 8
Crown Princess 337
Naptholive 340
Natural Gas 340
Peace 340
Ox Oil 340
Mox-Nix 340
Beef Oil 340
Sentry 340

SUPPLEMENTARY LIST
OF THE
BRANDS OF SOAP MANUFACTURED IN THE UNITED STATES
Including also the Brands of Foreign Manufacture Registered as Trade-Marks in this Country.

NOTE: This list is compiled with the greatest possible care, but the publisher does not assume any responsibility other than to correct and to complete the list according to data obtained from official sources or furnished by the trade. Brands registered in the patent office as trade-marks or labels are given with the name of the party registering same. Brands or names marked * are those which were found to be used by more than one firm or the owner of which could not be ascertained. ☞ SEE THAT ALL YOUR BRANDS ARE ENTERED IN YOUR NAME.

344 Home Soap Co., N.Y.
345 Columbia Ref'g. & M'f'g Co. Ltd., New Orleans.

Abrado, Floridine Mfg. Co., New York.
A Happy Home 4
Amazon Coco 337
Angelus 54
Antillia 2
Anty Up 340
Apple Blossom 337

Beauty Belle 115
Bell's Brown 343
Billy-Goat 340
Blue Chip 340
Blue C oud 2
Blue Coco 340
Blue Family 340
Blue Monday 340
Blue Olive 340

Calcutta Castile 337
Chlorine 340
Cleaneasy 286
Climax Chip 54
Cloth Pin 340
Cloths Pin 340
Credential Shaving Stick 16

Dactylis 11
Dermicura 327
Durango Best, Durango (Colo.) Soap Co.

Empress Eugenie 115
Empire Geranium 337
Eneryl Eneryl Ltd., Hull, England.
Evergreen 286

Facine 340
Fairbauk's Primrose 2
" Scouring 2
" German Fam. 2
" Glycerine-Tar 2
" Mottled Germ'n
" Olive 2
" Navy Blue 2
Federal Family 1
Floral Feast 115
Flaunel 2
Flip 345
Force, Cincinnati Soap Co., Cincinnati, Ohio.
Fragrant Honey 2
Frog 340

Gem Wash, Compound, Clara Pearce, Philadelphia.
Georgia Oleine 29
Geyser 343
Gloriola 29
Gold Seal Soap Flour 340
Goodhair, Goodhair Remedy Co., Newark, Ohio.
Green Olive Chip 340
Green Palm 340
Green Seal Chip 340
Gusher 340

Hard Maple 155
Helix 54
Hi Lo 96
Horse Oil Harness 340

Idyllwild 54
Ilo Ilo 340
Iroquois Maiden 115

Jack & Jill 340
Jack Pot 340
Jewel 2

Kazan 343
Kimola, Bell Mg. Co., St. Louis, Mo.
King Solomon's Rock Oil S. Mnross Jenkins, N. Y.

Lakeside (Scouring) 2
La Mariposa 54
Lasco Napthol 54
Last Long 286.
La Virtho, John S. Nichols, New York.
Lemola Toilet, Lemola Soap Co., Los Angeles, Cal.
Lemolive 54
Lemonine, E. H. Krant, Cincinnati.
Limberine, E. A. Warren, St. Paul, Minn.
Lion 2
Long Shot 345

Madeira 16
Madeira Almond Cream 16
Madeira Cucumber Cream 16
Madeira Lettuce Cream 16
Madeira Olive Cream 16
Marjorie 337
Marveline 300
Maxine Elliott 337
Mentholatum Corn Oil S. 169
Mexicano 54
Michigan Family 2
Mildred 337

Naphtha Toilet 340
Naphthal 340
Napthol 340
Next-To. Phoenix Chem'l Co. New York.
Nolabor 340
Noxlabor 340
Noxwork 340

Orinoco 337
Orris Unscented 337
Otis Lightning, C. H. Waterhouse, Essex, Conn.
Oxolive 340
Oxigen 340

Palmo 340
Palm Oil S. Powder 340
Palm Soap Flour 340
Parisian Toilet 54
Passion Rose 298
" Violet 298
" Pink 298
" Lily 298
Peach Blue 340
Peerless Country Club 337
Peerless Forest Violet 337
Peerless Lily of the Valley 337
Peerless New Mown Hay 337
Pen Yen 340
Perfecto 121
Plautol Lever Bros., Limited Port Sunlight, England.
Pony Up 340
Premium, Davenport (Iowa) Soap Co.
Premium W. Powder, Davenport (Iowa) Soap Co.
Preventionette, Willard Chemical Co., Malden, Mass.

Quick and Easy 56

Rex Cremo 340
Rex Family 340
Rex Liquid Soap 340
Rexolene 340
Rexolive 340
Rockford Scouring 2
Rubbo, Lever Bros., Limited, England.

Sani-Tari Skin, Citizens Wholesale Supply Co., Columbus, O.
Santa Rex Castile 2
Savon Carnation 337
Savon Heliotrope 337
Savon Lilac 337
Savon Queen Regent 337
Savon Quo Vadis 337
Savon Rose Marechal Niel 337
Savoy Alpine Violet 337
Savoy Carnation 337
Savoy Jockey Club 337
Savoy Primrose 337
Sentinel 340
Sorosis 340
Stainoff, D. M. Steward Chattanooga.
Stainilgo, Kendall-Davis Co, Boston, Mass.
Star Mottled 2
Success Scouring Sand Soap Tacony Soap Co., Phil'a.
Sweet Blossom 2

Tew Fer 96
Tode 340
Tonla Toula 334
Trash Mover 286
Twin 2
Two Jacks 340

Vestal Carnation 16
Vestal Lilac 16
Violet de Parme 337

White Fairy 2
White Pine Castile 344
Windsor 2
Winner 29
World's Fair 2

Yellow Dog 340
Yellow Palm 340

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as reported up to
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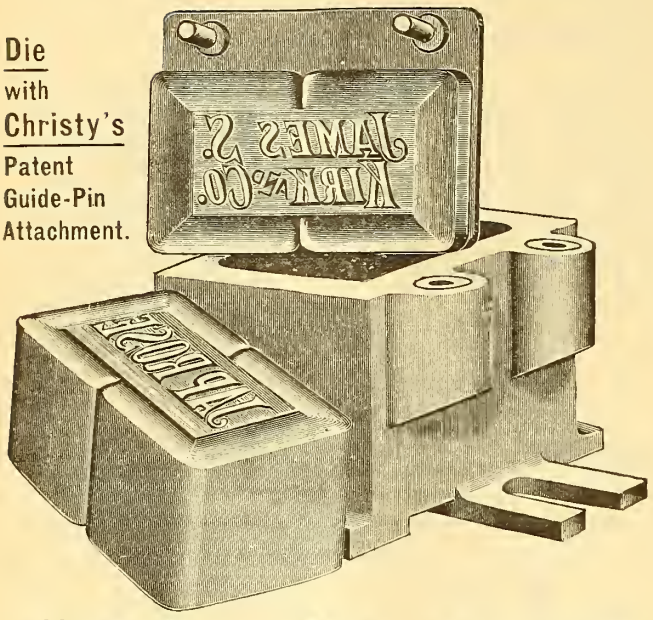
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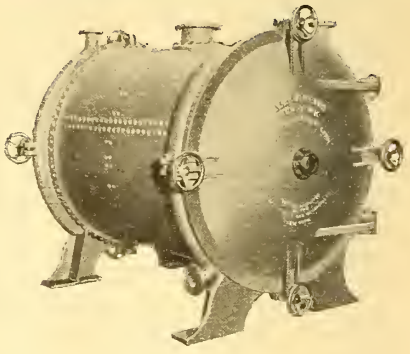
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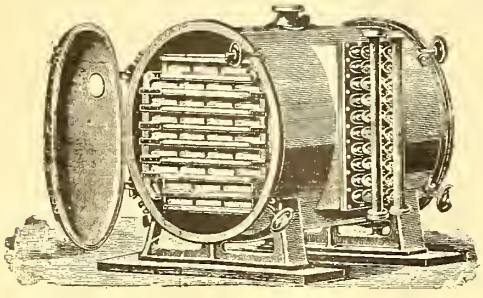
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The Latest Complete Edition of Our

List of Soap Brands

was published on Jan. 1st, 1902. All new brands and changes that have been reported since that date are contained in the "Supplementary List" published on another page of this paper.

The American Soap Journal & Manufacturing Chemist.

A MONTHLY JOURNAL OF THE MANUFACTURING CHEMICAL INDUSTRIES.

DR. HENRY GATHMANN, Publisher.
2707 North Ave , Milwaukee.

MILWAUKEE, WIS., May 1, 1903.

VOL. XIII. No. 9.

U.S. PATENT OFFICE MAY 18 1903

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The National Soap Manufacturers' Association met in the office in the Bowling Green Building, New York, on the 14th of last month for its annual meeting, and had a very large representation present. The regular routine business was transacted, and this being the annual meeting the officers who had served the association for the past two years, as well as most of the members, felt that there should be a new set selected. The following were unanimously elected:

President—M. M. Eavenson, Philadelphia.

First Vice-President—James Beach, Dubuque, Ia.

Second Vice-President—W. R. Post, Detroit, Mich.

Treasurer—Edmund Reardon, Boston.

Secretary—F. D. Mellen, Boston.

Board of Directors—C. H. Geilfus, Cincinnati, and William Peet, Kansas City, besides the above mentioned officers.

Some changes in the by-laws were made.

The members generally expressed themselves as well satisfied from the experience of the past two years that the association should be continued with new zeal, although on modified lines.

The office of the Association in the future will be in Boston, Mass.

Although the Association has not accomplished all it started out to do, it has certainly had a reasonable measure of success and may confidently be expected to be productive of further good if maintained in the proper spirit.

In the new constitution the objects of the association are stated to be "To cultivate closer and more friendly relations among members, to collect and disseminate information relating to legislation, tariffs, transportation, and similar matters affecting the soap industry; to lessen or abolish unbusinesslike trade methods as regards discounts, credit, etc.; and in general to promote the common interests and welfare of its members."

After the close of the meeting just referred to, some of the members, together with representatives of firms not manufacturing soap, held a meeting of glycerine manufacturers, in response to a call from O. B. Blackburn. The firms represented are estimated to control 90 per cent. of the total output of glycerine, and their object was to consider the plan of forming a selling company to handle their product.

As a preliminary a Committee of Ways and Means was appointed, composed of the following: W. J. Wolfendale, of Lever Bros. ltd., Cambridge, Mass.; F. Rawolle, of Marx & Rawolle, New York; W. J. Gordon, of the W. J. Gordon Chemical Company, Cincinnati; J. B. McMahon, of the N. K. Fairbank Company, Chicago; John J. Burchenal, of the Proctor & Gamble Company, Cincinnati, and W. A. Harshaw, of the Harshaw, Fuller & Goodwin Company, Cleveland.

As the committee found it difficult to arrive at a detailed plan in so short a time, Messrs. McMahon, Rawolle and Burchenal were appointed a sub-committee to report further at a later date. From the unwillingness of these gentlemen to accept the nomination and the reasons given for their decision, it appears that, for the present at least, no further action will be taken, since the views of the different firms seem to be too widely apart.

Speaking in a general way, the perfumers and the toilet soap men are more successful so far in their joint deliberations than are the laundry soap and the glycerine manufacturers.

The new Persian tariff places a duty of two cents on each six and one-half pounds of soaps imported, except perfumed soaps, whose importation is prohibited. Just what the objection to perfumed soap is, we are not informed.

Lengthy as is the communication by Mr. E. Moulie, printed on another page of this paper, we cannot refrain from adding thereto a little comment of our own.

Certain it is that, not only spirits of turpentine, but also the rosin produced, would be of better quality, if the impurities which now find their way into the gum, were prevented from reaching the still. The more volatile impurities now deteriorate the spirits and the remainder affects the quality of the rosin. Recklessly destructive operations on a large scale have ever been wasteful all the way through; it is when the full extent of the folly dawns upon the operators—is made to dawn upon them, when they see their operations coming to a premature end from lack of material to destroy—that better methods are thought of. The naval stores industry is reaching that stage, where the operators will soon wish they had been less reckless.

Ever since the foundation of this JOURNAL, some 13 years ago, Mr. Moulie has persistently discoursed on the resources of Florida and on the possibility of their rational development. Though many have disagreed with him, Gov. Jennings in his speech at the Turpentine Operators' Convention in September last corroborated most of Mr. Moulie's statements, as published in this paper, concerning the rosin industry especially.

Nor have these articles been confined to the attention of our regular readers, many of whom are vitally interested in the supply of rosin. For again and again copies of the SOAP JOURNAL have been sent to Government and State departments, members of legislatures, large operators, influential newspapers, etc., and if the naval stores industry be saved from itself before it is destroyed we shall modestly claim for Mr. Moulie and for this JOURNAL a little share in having stirred up the action that brought about such a result.

A "dealer in general merchandise" in the South writes us the following letter, which is an entirely unsolicited comment on the question of soap prices as treated in these columns last month:

"Dr. Gathmann: Dear Sir—I wish you would do some soapmaker a favor as well as myself.

"In this section of the state the people *all demand* Colgate's Octagon soap, 12 oz. cakes. Trust price in—or—is $3.90 per case of 100 by single cases. Then all stores are selling six cakes for 25 cents, after paying freight from the places named. Leaves about 3 per cent. profit.

"The reason the public *here* demand Octagon is that each time a storekeeper tries to introduce a *new* brand to these people, he usually starts in on some very *poor* soaps. Please name me a brand or two of soap (and maker's name) that is equal in quality to Octagon, *but quite some cheaper.* * * * "

While we purposely do not give the name of the writer of the foregoing, it is nevertheless a genuine letter and received by us, at least, in good faith. Probably also it was written in good faith. We do not know whether we should send the writer a complete list of soap manufacturers in reply (since all are selling "quite some cheaper" than everybody else), or whether we had better sell the secret of our correspondent's name and address to the manufacturer most anxious to sell for the least money. Who will advise us?

In the opinion of Estimator George M. Lane, the confines of the Detroit city hall are about the dirtiest that it has ever been his misfortune to run up against, and he recommends that while the putting in of a municipal brick plant was contemplated, it might not be out of order to establish a municipal soap boiling factory at the same time. He said that if the appropriation for the remodeling of the building did not go through, the judicious expenditure of a few simeoleons for soap and brushes, with plenty of hot water, would certainly improve its appearance at little expense."

The above is from a Detroit paper. Since, as a rule, cities operate their own waterworks, a municipal soap

factory in addition would be at least appropriate, though likely enough far from profitable.

Some years ago, we recall, a city—we believe it was in New Jersey—planned to start a soap plant for the purpose of giving employment to those unemployed that could find no work in the municipal wood chopping yard. What has become of it?

A subscriber asks: "Can you tell us of the practicability of recovering the stock from waste wash water in woolen mills and laundries? We understand it is being done in some mills in Europe, but that the process is so expensive as to make it impracticable here."

The process being actually carried out in some places, there seems to be a possibility, under favorable circumstances, to make it pay. As one of the chief among these favorable circumstances, we take it, we must consider the high value of fats. But just what must be the value of stock to warrant such a recovery of fatty acids from the waste wash water we have no means of calculating.

As "he is a public benefactor who can make two blades of grass grow, where only one grew before," anyone who—at the present price of stock—could figure out a profit in any process for the object stated, would be entitled to the profit and to the claim of being a real benefactor.

To Mr. B. Fair.

We have read your article in April issue of JOURNAL twice, very carefully, and regret that your imputation, we are not careful readers, compels us to be a trifle inquisitorial. Please state where that "not" was inserted inadvertently in your February article, negativing the sense of your remark about the relation between the boss and the soap chemist. Name the line, counting from top or bottom of page, or quote the sentence. Also please tell us in what factory soap is made in the manner mentioned in your article in April JOURNAL, resulting in an excessive amount of glycerine being retained in the neutral fat remaining in the soap. And now for the question: "What harm has the chemist's work wrought in the soap factory so far?"

This question, really, has already been answered briefly in the concluding paragraph of our reply in January JOURNAL; however, we promised in our last to answer more fully.

In looking over our stock of material suitable for the construction of this answer, we find an abundant supply, but recognize the importance of using only such as can be easily verified, because it would never do to narrate private and hence unprovable facts. A case of harm wrought in the soap industry by a chemist, which can be readily verified, is published in the January number of the Soap Gazette, page 26, and for the convenience of the JOURNAL's readers we here reproduce the article verbatim, except that we do not give the names of the person and firms in full:

B. C. H., for years an expert chemist in the employ of the S. Packing Co., who has discovered a process for making a superlative quality of soap out of buttermilk is behind a movement for the establishment of a plant in this city to carry on its manufacture. The plan contemplates the organization of a stock company with a capital of $25,000, and it is stated that the chief men connected with the B. Creamery Company have readily agreed to take a large part of the stock. Mr. H. was attracted to Lincoln by the knowledge acquired by dilligent inquiry that the output of buttermilk at the B. Creamery Company's plant is the largest from any single plant in the United States. Buttermilk is largely a waste product in the economy of the creamery. If soap are not visionary the process will revolutionize the soap making industry, as its product is free from the uncleanliness that characterizes the making of soap under existing processes.

"Now, what do you think of that?" Can you see the harm this expert chemist has done or tried to do to the soap industry, and incidentally to all those people who enjoy a glass of ice cold buttermilk with a liberal dash of bacilli in it? If you can, then ponder and wonder upon the unlimited possibilities in the soap industry, and allow us to whisper into your ear that we were in a sportive mood when we replied to your question: "What harm has the chemists' work wrought in the soap factory so far?" Had you asked: "What harm has the soap boiler's work wrought in the soap factory so far?" we would have replied to you, too, and would have made it quite as warm for the soap boiler, i. e., for the bad soap boiler.

And the moral of this story is: A good thing, whether in the form of a good soap chemist or a red-cheeked apple, will do no harm; but a bad thing, whether bad soap boiler or ancient banana, will do no good. However, there are both good and bad soap chemists and good and bad soap boilers—upon which all employers of soap chemists and soap boilers are agreed—hence both the soap chemist and the soap boiler may do either good or harm, according to their quality, and consequently the boss should keep an eye on their doings. Isn't that sound logic? Very respectfully,

BIVALENT.

Oil of Peach Kernels in Almond Oil.

A Chowless (Chem. Zeit.) states that the presence of peach kernel oil in almond oil may be detected by the following test: An equal volume of the oil is poured upon nitric acid of specific gravity 1.42, an equal volume of an ethereal solution of phloroglucin, 1 in 1,000, added and the whole shaken vigorously. Pure almond oil gives with this treatment a faint rose-red tint, but if oil of peach kernels is present the color is an intense raspberry red with a shade of violet.

AMONG THE SOAP FACTORIES.

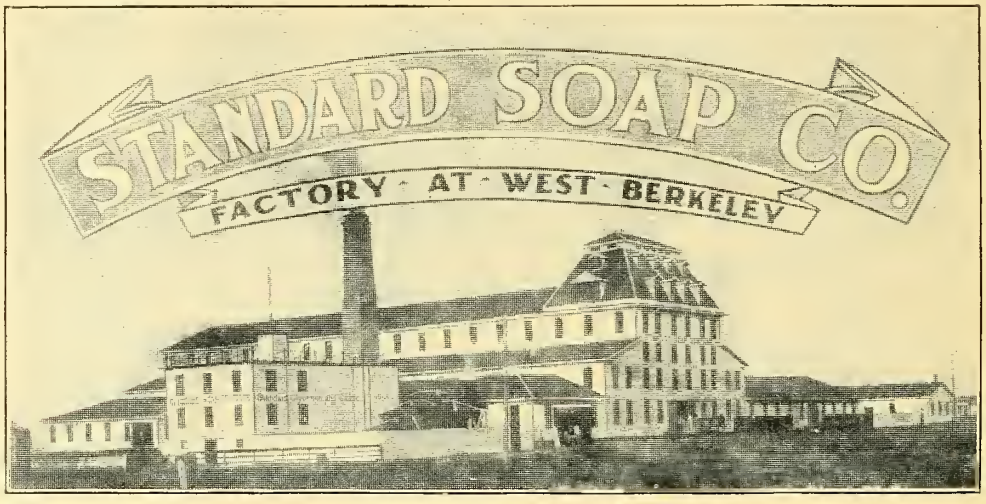
No. 8—The Standard Soap Works, San Francisco.

Our excursions "among the soap factories" will take us to the Pacific coast this month, where we shall take a brief view of the Standard Soap Works, located at West Berkeley.

Though not playing its former important role in recent years, its past (and very likely its future) will prove interesting. Starting on a comparatively small scale, the business grew, under the able management of the late Captain Thomas, until it became at one time the most important soap, candle and glycerine factory throughout the far west. In 1875 it was incorporated with a capital of $500,000, with Capt. Thomas at its head. The latter was in many respects a remarkable man, full of grit, energy and ambition, and he did not confine himself to the soap factory, either. He was interested in a number of enterprises, notably in the banking business and in operating a steamboat line across the bay to San Francisco. It is owing to the latter fact, we believe, that he was generally known as "Captain" Thomas. Many will remember him as a tall, sinewy, white-haired old man, as he was seen on the grounds of the Chicago World's Fair in 1893, where he had interested himself in the then newly introduced French machine for rapidly drying freshly made soap and milling it on the spot. He was struggling valiantly with the restrictions imposed by the rules of the Exposition, which did not permit him to boil soap on the spot, and operated the machine with cold-made, half-boiled and re-melted soaps. At the end of the Exposition he took a machine with him, to operate it in California.

But the time came when his age was unequal to the hard tasks he had undertaken and when his several interests began to suffer. The soap factory lost ground and for a time came to a standstill. Then the Haswell-Haynes Co. became the successor and undertook to carry on the business, but it did not flourish and the firm last named is out of existence at this time.

Capt. Thomas died some years ago, but his widow survived him and retained a large interest in the plant, even operating it to some extent.



Such a large plant, however, obviously requires younger and more experienced management and we learn with pleasure that the firm of Tillman & Bendel, large wholesale grocers at San Francisco, have acquired the concern and will operate it on a scale more in keeping with its actual importance. It was the occasion of this prospective revival that made us refer to this once famous plant this month.

To the Representatives of Duval Co., to the Legislature of Florida, Tallahassee, Fla.

JACKSONVILLE, FLA., April 13, 1903.

Gentlemen: As an American citizen and a resident of this State for over twenty-two years; as the pioneer of the industry of perfumery, and as the authorized representative of the AMERICAN SOAP JOURNAL AND MANUFACTURING CHEMIST, published in Milwaukee, Wis.; in the interests of every industry consumers of "Naval

Store products," I would respectfully submit to your impartial consideration some of my views on questions which are going to be discussed during the present session of the Florida Legislature.

The most important of all is the preservation of our pine forests. Strong and adequate legislation is imperatively needed to prevent the fate met by several states north of us, where in less than a quarter of a century a complete devastation has been effected. Our State, as a consequence, has become the field of exploitation of the Naval Stores industry. Unless some radical measures are immediately resorted to, Florida's pine forests are doomed, and as in her sister States they will soon be a thing of the past.

A strong current of public indignation has caused the authors of that wholesale destruction to pause and to reflect, but they do not seem to be in a hurry to mend their ways. It is true that they organize into corporations and associations and that their organs loudly proclaim the wisdom and the necessity of more conservative ways of operation, but they go on, as in the past, just the same. Their protestations of welcome for preservative measures are not sincere. They are thrown as a blind in order to calm the agitation and indignation so strongly manifested by public opinion, with the mental reservation to go on as they have done, as soon as the time for the legislation of measures which would effectively check their work of destruction has past. Oh, yes! in conventions held here and there they pass resolutions that, on paper, seem inspired by a conservative and preservative spirit, but it would not be safe to rely on them; the stake is too important.

Is it reasonable to suppose that such a sudden conversion is sincere? Are not the men who have ruined other States the same men who have come in this State? And are not these men intelligent enough to have been capable of seeing long ago that they were engaged in a work of destruction? Are not these men the same ones that have snapped their fingers at the future and let greed for the present be their ruler? Beware of their sudden conversion. Their press organs are very loud in praising these conversions, but the holders of the "pencil" are bound to them, and their expressions should be accepted with a great deal of caution and not be permitted to interfere with the adoption of measures which are imperative for the preservation of the forests, of the climate, of health and of the industry of Naval Stores itself, forever.

Beware of their sudden conversion, I repeat. It is not sincere. If it is needed of a proof you could find it in the slowness, in the reluctance, I may say, of adopting for the gathering of the gum the Hughes' Cup System, which has been copied, imitated and made use of by Prof. C. Herty. That system has been originated and in use in France over 12 years and with such results that anyone not blinded by insatiable greed would have adopted it as a blessing. Although the several years of practical experiences made by Prof. Herty, showing irrefutably the immense advantage derived by the use of that system, the efforts, the expense of the nation's funds for the benefit of some few men (who did not need to be helped financially), have proven a failure and this shows that the old spirit of greed in the present, and the indifference as to the future are still masters of the situation, for, what else but failure can it be called, when an authority not to be contested, and which is no less than the organ of the Associations and Corporations of the "Naval Stores," owns that but one per cent. of the boxed trees will be turpentined with the cup? Think of it, 99 destructive boxes and only one poor, solitary preservative cup! Oh, there are yet beautiful days in store for the greedy operaters and for their friends, the lumbermen. Heed the voice of the people, gentlemen, the people of Florida want the industry; not for 5 or 15 years, but forever. The people want the preservation of the forests and of the incomparable Florida climate, instead of ruin and desolation. You have it in your power to help them to accomplish that, and the people trust you; fail not to deserve that great honor. And your task is not limited to that question, either. I understand that the Georgia Legislature has to consider a bill for the prevention of adulteration of spirits of turpentine. The "Industrial Record," published here, has made the same point. That is right; the fraud should be prevented, but there is another way of adulteration—which I beg to respectfully commend to your attention. It is not less than the adulteration in the operation of distilling, and it is that adulteration that caused me to say in an article published in 1900 in the "Metropolis," that there was not, in this country, a single drop of pure spirits of turpentine, and I repeat that assertion to-day, and will repeat it as long as it is introduced with the gum into the still, all sorts of impurities, representing no less than 15 per cent. of the whole. Among these impurities there are some of offensive and dangerous nature; poisonous substances in the form of "fungus" are among them; even insects, bugs, toad stools, lizards, dirt, decayed herbs and leaves, etc., and all that goes into the still to make American spirits of turpentine for medicinal use! I do not hesitate to say that if I had the choice between the adulteration with kerosene and the adulteration in the gum, I would give the preference to the former, because it is incontestably less dangerous. A law should be enacted to compel the operators to eliminate all impurities before the distilling of the gum. I know by experience that even the Hughes System of gathering the gum with cups should not dispense from the process of elimination. If this is necessary where all the gum is gathered in cups, how much more it is necessary when such a small quantity as one

per cent. of it is gathered in that way. Yes, the matter is worthy of your consideration and of your efforts to secure protective measures against such a practice, a practice that should be shunned by any manufacturer who has pride enough to produce pure products; a practice which, in many cases, may be dangerous to health.

But I must warn you that the operators, as a rule, are as much opposed or reluctant to adopt improvements for the production of better products as they are of the adoption of the cup system. Is it not remarkable that not a single suggestion, either by print or by word, in regard to the increase of the selling price has ever been made towards the production of products of higher standard in quality which would give them a greater market value? No; the only way they have found is reduction of production. Therefore, you may expect resistance against any attempt to compel them to manufacture pure products. They well know that I have exposed their practice and most of them know also that I am fighting for the elimination of the impurities as I have described and in order to check my efforts they have planned and played me a trick which could have had the desired effect but for the detection in time of their scheme. They wanted to refute my assertions in declaring them incompetent or malicious, and, perhaps, both, and here is the scheme resorted to:

It was on the 23rd of December last, I was honored by a visit, at my residence, 1802 East Duval street, of Mr. D. H. McMillan, a well known and prominent turpentine operator. Mr. McMillan asked me to analyze for him two flasks of spirits of turpentine, which he tendered me, as they were suspected of adulteration, and as he could not find it out himself; indeed, he added, "I have been told by a druggist that you are the only man here who can do that." It was about noon time, and he wanted to have my opinion at about 1 p. m., because his companion, who was interested in the matter, was to leave town at about that time. I replied that this was impossible. First, the operation was extremely complicated and difficult, and, second, that my apparatus was not in order for that operation. He then asked me if I could say whether the spirits were pure or not without resorting to a thorough analysis. I replied that I might be able to say that after a serious examination, but that I could not make it before 4 or 5 p. m. "Very well," he said, "you can take the whole day to-morrow and I shall call again the day after to-morrow, and I will pay you well for the work." To which I replied that I would do it without charge for the love of the work itself.

I took the two flasks, without opening them. I placed them on my desk. An hour or so later I went to town and the idea to call at his office for some information came upon me. I found the office closed. I inquired of a storekeeper, who told me that Mr. McMillan was at the office of the Consolidated Naval Stores Co., he being a vice-president of the concern. Upon learning this I smelled a "trap." I at once went back home, examined the contents of the flasks and found out that the spirits were "Rectified Spirits of Turpentine," after the formula of the U. S. Pharmacopea. I saw their object at once, but I acted as if I had not detected the scheme. I took the flasks to the "Consolidated" offices, where I found Mr. McMillan. I told him that having learned of his connection with the new concern I declined to make the examination of the samples, simply and solely because I wanted to have nothing to do with anyone having any connection whatever with Mr. Coachman. Mr. McMillan insisted, saying that the latter had nothing to do with the matter, etc. I persisted in my refusal. He then begged me to tell him of someone else who could do the work. I suggested Mr. Leake, of the firm of Leake & McNeil; he thanked me, but he has never been to see Mr. Leake up to this hour.

I learned that Mr. Coachman had arrived from New York, by the Clyde steamer, on the same morning at 8:30. What was the scheme? Simply this: "We will have Moulie examine these spirits, which were bought or procured in New York. He is so deadly in earnest about his criticism that, in an unguarded moment he will pronounce them adulterated and then we will be in position to say that he knows nothing about what he says and that his charges are simply malicious.

The result will be that he will have to shut up and quit to annoy us with his utterances, which, after that, nobody will believe." That was the plan. But they did not stop there. On the day after my refusal I was again visited by another gentleman, bringing also two other flasks of spirits to be examined, and this time they were sent by Mr. McMillan of the Copper Works. The man who recited the taught lesson did not know anything about the scheme and protested strongly and sincerely when I told him that only the flasks had been changed, but that the spirits were the same as those I had refused to examine on the previous day. I opened one of the flasks, and, of course, I was right. I gently dismissed the man, refusing to discuss the matter, and requested him to tell Mr. McMillan that I refused to have anything to do with the matter. On the same afternoon I met Mr. McMillan, the coppersmith, who owned to the fact that he had been asked by the other McMillan to try the trick again. Think of the mighty $3,000,000 corporation needing poor me to tell them whether their spirits of turpentine are adulterated or not, and draw your own conclusions. I have waited to expose that scheme until the time when the exposure could be of value as a warning to you, of what may be expected.

Permit me to also refer to the "duty" of securing an appropriation for an exhibit at the St. Louis Exposition. I will give my humble endorsement to the patriotic ut-

terances of the President of our Board of Trade when he said: "Florida can well afford to appropriate $100,000 and more." Secretary Smith, of the Board of Trade, who cannot be suspected of an unwise or dangerous move, said, on the same occasion: "Florida can well afford an appropriation of $150,000, and I hope that that appropriation will be made when the Legislature convenes."

Some recent articles in the newspapers convey a tendency to the reverse. The Governor discourages the effort and the TIMES UNION, of course, says the Governor is right. Well, as a man who has spent much money in participating in expositions, with the certitude beforehand of financial loss, but with the desire of promoting the interests of my adopted State, I dare and presume to say that the Governor and the editor of the TIMES UNION are both radically wrong, and that they do Florida an injustice and an injury.

And, although I might, perhaps, correctly guess and express the causes of that attitude, I will refrain from giving my opinion upon the matter, but I will bring forth in support of my opinions the comments of the SAVANNAH NEWS, as published in the METROPOLIS, in the issue of March 27:

"The people of Florida are very much interested in the questions as to whether or not the State will have an exhibit at the St. Louis Fair. Gov. Jennings said a day or two ago that Florida could not afford to have an exhibit that would do her justice, and it has been pointed out that if California has $2,000,000 to spend on her exhibit, justice to Florida could not be done with $100,000. A great deal can be done in the way of an exhibit with $100,000. Indeed, Florida could make a very fine exhibit on a sum much less than that. Of course, Florida is not as rich as California and cannot, therefore, afford to spend as much money at St. Louis, but Florida is not a poor State by any means, and, besides, she has not any debt worth speaking of.

"It is not the size of the exhibit that always makes the best impression; its quality is what attracts. What impression, for instance, would California oranges make when compared with those of Florida? And Florida pineapples? Are there pineapples anywhere else in the world that compare with them? There are dozens of products in which Florida excels California products in which they are competitors, but in every instance the decision, if a comparison were instituted, would be in Florida's favor.

"We do not think it good policy on Florida's part to remain away from the Fair simply because California can afford to spend more money than she can on her exhibit. It is not the best dressed girl at the ball that attracts the most attention. Florida, with much less than $100,000, can make an impression at St. Louis that would do her a vast amount of good, and that she can afford that amount there seems to be no doubt."

That is really friendly and sound talk; it should help to turn the tide in favor of an appropriation of $100,000 *at least*. Suffer not, gentlemen, that it can be said that Florida, the Queen of the South, the brightest jewel of the Union, the Riviera of America, the rendezvous of fashion and of millionaires, is too poor to take a promiscuous place in that great Exposition, where, from the remotest parts of the world, semi-barbarous people tax to the utmost their resources in order to participate in that fraternal contest tending to the development of progress and the ennoblement of mankind and civilization.

And, when the appropriation is voted, do not appoint for commissioners any of those political wire pullers, nor any of those who may do away with exhibits confided to their care. Permit me to suggest the nomination of a man who has proved himself the right man at the right place, and that man is Gen. W. H. Sebring, who, with Prof. Curtis' help, made a success at the Exposition of New Orleans, in 1884-85, with the mere pittance of a $5,000 appropriation. With that he found the way of making a success for Florida and to refund $700! Think of that and you will agree with me that Gen. Sebring deserves a monument; but what he surely deserves is the appointment of Florida Commissioner to the St. Louis Exposition.

Yours very truly, E. MOULIE.

Soap Manufacture In Cuba.

(Special Report to the AMERICAN SOAP JOURNAL.)

I appear to hear daily of new soap manufacturers here, and by all appearances fresh ones spring up on all sides.

Speaking only of those I know of, and that are of any importance, there are to my knowledge actually five soap factories in Havana proper and a sixth one is preparing for business. The principal firm in Havana, established for over 40 years, is Sabates y Boda, 20 Universidad; next is Cruzellas Hno. y Co., Monte 316. The first named firm is doing the largest trade, but the Cruzellas are advertising extensively. Next comes the firm of Puig y Giberga, Zanga 152, and Guise y Hno., 48 Jesus del Monte. There is one other whose address and importance I do not know. The latest firm is A. d'Estampes S. en C.

In other parts of the island there are, besides: Jose Balta, 4 Calle de Clouet, Cienfuegos; Rovirosa Hno. y Cia., Puerto Principe; Juan Escarra, Sancti-Spiritu; Antonio Sabido, Santa Clara; Jose E. Marx, Matanzas. The latter purchased the plant of the former American Soap Co., that formerly existed at Matanzas. There are, I hear, other soap manufacturers, but I know not who they are, nor their importance.

Sabatés sell at $4.50 Spanish gold, and Cruzellas at $4.00 and $4.25; others at $3.75. Spanish gold is at 10 per cent. discount compared with American gold. So, you see, the soap trade is anything but bright, as all chemicals, etc., in great part come from the U. S. and pay freight and duty. The boxes which, in the U. S., cost, say, 13 cents, cost 25 and 27 cents here, and when 10 per cent. is deducted from sale price to reach American gold standard, soap does not sell for over $3.25 to $3.50 on an average.

I believe that he Spanish soap "Rocamora," which is still imported very largely, is losing and must forcibly lose ground.

Rosin costs 2 cents here, silicate $1.75, soda ash, talc and silex the same; tallow 6½ cents, cocoanut oil 7 cents, caustic soda 3 cents. And the cry is for cheap soap.

The Spanish soap "Rocamora" sells at $5.25 to $5.30.

American Soapmakers on the Australian Tariff.

The letter of an Australian correspondent recently published in the AMERICAN SOAP JOURNAL, causes the *Soapmaker and Perfumer* (England) to make the following remarks—not entirely warranted, we think:

The Australian tariff has been pretty freely discussed by American soap manufacturers who have had, and still have business connections with the Australian States. The apparent conclusion at which they have arrived is, that the Commonwealth Parliament has dealt very hardly by them. Protective duties are all very well in America, but Americans have a great dislike to them when other countries impose them on goods of American origin. In other words, sauce for the goose is not always suitable for the gander. The American soapmakers are great believers in the principle of free trade—in other countries but their own, and regard the action of the Colonial Parliament as inimical to the world's commerce in general, and their business in particular. But as business men they are seeing how they can suit themselves and their methods to the new condition of things. They are convinced that in the Commonwealth there is a splendid market for their products; how to obtain a firmer hold on that market in spite of the tariff is what is now occupying their attention.

We learn from an American soap contemporary that for a few months after the passing of the tariff Australian manufacturers sat still eagerly watching each other, and talking of leaving "each other's territory" alone, but this could not last, and manufacturers began sending travellers out of their own States and trespassing on what had hitherto been the close preserves of others. While they were content with watching each other, American manufacturers were pushing their brands on the Colonial market, and we learn that many of them have now a very firm footing, the tariff notwithstanding. While the Australian manufacturers are quarrelling among themselves, the Americans are doing the business. What the end may be it is difficult to foretell, but as our American contemporary puts it, "it will end in larger trade for those who are up-to-dates, and keep pushing with energy and advertising with intelligence, while many will fall behind or fall out of the race entirely. Hitherto each manufacturer in Australia has had to deal with the back yard trade, now each has his chance at the business of a continent."

Meantime, it would be interesting to know what efforts British manufacturers are putting forward to hold the connections they still have or wish to make in Australia.

Complexion Quackery.

Some forms of empiricism which I have recently observed may be of interest. One knows the ease with which a large section of the feminine community, in the confiding innocence and simple trustfulness with which they are generally credited, are gulled by boastful medical pretenders. Especially do they seem to lend an all-too-willing ear to the machinations of the quack when the external membranous integuments of their simple beings do not afford the complete and perfect satisfaction to which they aspire. We learn that the task of cosmetics is the supplying of preparations suitable for the rational care and beautifying of the skin and other parts of the body, and in our business are accustomed to supply legitimate demands in this respect—from face powder to freckle cream, and from complexion tablets to caustic applications. But although much of the prejudice and ignorance formerly associated with the art of cosmetics has disappeared simultaneously with the application of science to their manufacture and employment, that which still remains is rendered much more difficult of elimination by some practices which prevail in the present age which subsequently necessitate the use of cosmetics. To desire a beautiful face is, of course, no sin, and every woman owes it to herself—seeing that man looketh always on the outward form—to adopt legitimate means of amending her inherent or acquired deficiencies in this direction. Of course, this is a distinctly commonplace observation, but I am led to it by a contemplation of the tortures which so-called complexion specialists have, in their genius, devised for the especial benefit of beauty-seeking women who can pay for such luxuries. A skin like unto a babe's seems the thing most desired at the present time by female frequenters of the drawing-rooms of the wealthy, and American and Continental quacks are prepared to meet the demand. The removal of the outer skin is the claim of the face artist, and in one case that I saw recently de-

scribed the face was first painted all over with some liquid—about which a good deal of secrecy was implied, but which turned out, on analysis, to be a solution of isinglass—which caused the skin to tighten. After the lapse of nearly an hour the "artist," using a silver implement resembling an ordinary small fruit knife, delicately removed the dried surface, claiming that the little curled-up scrapings were the outer skin, the detachment of which caused the now quite pinky complexion. That, however, and the accompanying soreness, disappeared in a couple of days, and for this artistic gulling the fee is only 20 guineas!

It, however, is but a fraction of the cost of another process, participants in which pay, according to my informant, 200 guineas for excruciating torture and the risk of blood-poisoning. The *modus operandi* is to first blister the face all over by the application of some drug. This is preliminary to isolating the submissive patient for more than a week in a dark room. Then, after the face has been covered with cosmetics and plasters, some sort of skin does, I am assured by a *Daily News* writer, and as it seems to me not improbable, come away, leaving a colour which is described as "rose blush." In some way, too, the muscles of the face are swollen, so that wrinkles temporarily disappear; but the patient has to avoid windy weather and preserve the new complexion by the artful aid of a special skilled maid with a supply of skin tonics, "epidermal food," and so forth.

Arsenic In Glycerin.

BY J. BOUGAULT.

Although glycerin is intended generally for external application only, a certain portion is taken internally, often in large doses, either by itself or in various preparations; the presence of arsenic, therefore, should not be tolerated.

Commercially, a considerable quantity of glycerin is used in manipulating wine, and in this connection I am informed the users are on their guard, and every sample of glycerin used is examined carefully and especially for this dangerous impurity.

I myself have had occasion to examine glycerins destined for pharmaceutical purposes, which contained quantities of arsenic corresponding to 3 or even 5 centigrams of arsenious anhydride per liter. And what gives importance to this observation is the fact that the examination was not of one small sample only, but of several samples taken each time from deliveries of several thousand kilograms.

Pharmacists are liable, therefore, to receive such a class of glycerin, and it is well that they should be warned of this eventuality.

The presence of the arsenic is easily detected without having recourse to the destruction of the organic matter, by precipitation in the form of sulphide. But sulphuretted hydrogen is not a convenient reagent to handle, so I recommend the following method, which is of sufficient sensitiveness, and of which the preparation and use is simple. This reagent is based on hypophosphorous acid, which was prepared some years ago as a delicate test for arsenic by MM. Engel and Bernard (Compte rendes, 1896, vol. cxxii., p. 390; Journ. de Pharm et Chim., 1896 (6), iii., p. 413.)

Twenty grams of hypophosphite of sodium are dissolved in 20 c.c. of water, and 200 c.c. of pure hydrochloric acid added of density=1.17. Chloride of sodium is precipitated; this is filtered off through a plug of cotton wool.

Five c.c. of the glycerin under examination and 10 c.c. of the reagent are placed in a test tube; after well mixing this is placed in a boiling hot water bath. With 0.1 milligram of arsenious anhydride we obtain a brown coloration, followed rapidly by a brownish flocculent precipitate; with 0.02 milligram we still get a distinct brown coloration, which is more easily seen if compared with a similar tube not containing arsenic. Even 0.01 milligram gives a coloration, and after standing for some days a precipitate is visible at the bottom of the tube; but considering only the 0.02 milligram test, it is obvious that we can rapidly detect 4 milligrams of arsenious anhydride per liter.

The appearance of the precipitated arsenic is very characteristic and a practised eye cannot be deceived; if, however, any doubt did exist, the precipitate could be collected and the presence of arsenic confirmed by the well-known method in the form of arseniate of silver.

It would be also very interesting to know how this arsenic comes to be in the glycerin, but the particulars in my possession do not enable me to solve the question in a very definite manner.

Glycerins for pharmaceutical use are obtained by the distillation of raw products from two different sources:

1. Glycerins from saponification, which are produced by the saponification of fatty matters by means of lime, under pressure.

2. Glycerins, called lyes, which are residues from the manufacture of soaps. The preparation of the first kind gives no opportunity for the introduction of arsenic. As for those of the second kind, being very alkaline, they have to be saturated, before distillation, with commercial hydrochloric acid, which is always arsenical; it may be that this acid is the source of the arsenic of which a portion would be carried over mechanically during the distillation.

Distilled glycerins are then decolorized with animal black, and then often treated with a small quantity of some product to hide their more or less yellow appearance. I am not able to say with certainty whether these two operations are likely to introduce arsenic into the final product.

Treatment of Spent Lye.

The treatment of spent lye for the production of crude glycerine is a problem that is being improved at a ratio as its commercial importance has expanded. Not every soap factory has adopted the most rational procedures, by any means, and new improvements deserve attention by those not having adopted the best, fully as much as by those now in the lead.

As stated in a circular prepared by the Jarecki Chemcial Co., of Cincinnati, Ohio, crude glycerine containing a low percentage of impurities is much more valuable to the refiner than is the ordinary, average crude glycerine from soap lyes. To precipitate the excess of impurities and to bring up the crude to the standard of "candle crude" is the object of the chemical marketed under the name of "Ferriton" by the Jarecki Chemical Co. This firm is ready to start consumers with full directions for the use of this chemical, and will accept a small order for trial. Their proposition should be given an impartial investigation by all producers of crude glycerine as a by-product in the soap factory.

Dyer's Soap.

Soap is used by dyers, says the Textile Mercury, for many purposes. In some cases, as in the dyeing of cotton with such dyes as benzopurpurine, it forms an important addition to the dyebath. A soap bath, either plain or broken by acid, is the principal method of dyeing silk; it is frequently used to prepare goods in before dyeing, to free them from dirt and grease; or a soap bath may be used after dyeing, to brighten up the tints and shades; it is also utilized to mill cloths in after dyeing. In textile printing, a soaping after the printing and steaming is of considerable value in brightening up the colors and removing the thickening material, or in helping to that end.

Good soap is an expensive article. It is produced from rather costly materials, and considerable care must be taken in its manufacture; hence a well-made soap is bound to be expensive. The best soaps are made from tallow, bleached palm oil, cocoanut oil, olive oil, nut oil, and caustic soda. It is the fats which make the soap expensive, for well-made soap will contain 64 per cent, or even more fatty matter, some 6 or 7 per cent alkali, and the rest water. In the endeavor to cheapen the cost of making soap in order to be able to offer to dyers a cheap article, low-grade fats, such as bone tallow, are used. Cheaper oils and soap stock such as cotton and linseed oils and rosin are also employed; the last body does not really saponify, but makes a kind of soap at a low price—hence its use.

The calico printer wants a soap which is fairly easily soluble in water. For this reason, palm, olive, cocoanut, and nut oil soaps are to be preferred to a tallow soap, which is not very soluble. The soap must be quite neutral in its properties; if it contains any free alkali this might act upon the colors and alter their tints, or cause them to bleed. Alkalinity, however, is avoided by care in making. Rosin, cotton oil, and linseed oil soaps are found to be somewhat alkaline in their properties, and to cause colors to run or bleed, so their use should be avoided in making calico printers' soap. As it is somewhat difficult to make a perfectly neutral soap form cocoanut oil, the soap maker takes care to use little or none of that article, more especially as it is not a cheap soap fat. Printers' soaps should not have a tendency to leave any odor in the goods; if so, it should be a pleasant one. For this reason soaps made from tallow, lard, cotton, and nut oils are not good articles, as they are apt to leave the cloth with rather unpleasant odors. It therefore happens that, on account of the reasons here set forth ,the calico printer prefers a soap made from palm or olive oils to any other kind of soap, and although he does not object much to tallow soap, yet he carefully avoids any soap which contains rosin or cotton oil.

The silk dyer also requires a fairly neutral soap; one that will not impart any odor to the silk. He prefers an olive oil soap made with caustic soda, and if it be a well-made soft soap from caustic potash and olive oil so much the better for his purpose. A palm oil soap is also a good one for silk dyers. Cocoanut soap is rather troublesome to make neutral, and any free alkali is apt to affect the shades dyed on the silk. Soaps containing rosin are to be avoided, especially if the soap is used in a bath along with acetic or sulphuric acid; the rosin set free tends to cling to the silk and gives it an unpleasant feel.

In preparing cotton goods for dyeing, a wider choice of soap is available, and any fairly good make may be used. Perfect neutrality is not necessary, in fact a slight amount of alkalinity is of benefit rather than otherwise, as it helps to cleanse the cotton. A soap made from any of the soap fats enumerated above, alone or mixed together, may be used. In some methods of cotton dyeing soap is added to the dyebath; this should be of better quality than that used in cleansing the cotton. It ought to be neutral, so that it will not have any action on colors dyed in the soap liquor (a strongly alkaline soap might alter the shade of chrysamine, for instance), and it should not be liable to impart any unpleasant odor to the cloths. For these reasons the best soaps to use are those made from palm oil or olive oil, or one made from a mixture of those fats. For soaping cotton goods after dyeing (which is, however, not often done, for the same reason as set forth above under printers' soaps), palm oil and olive oil soaps are those most to be recommended.

The woolen dyer only uses soap after he has dyed his cloths for the purpose of assisting in the milling, and he finds that a good soap made from tallow or palm or olive oil gives him the best results. It should be neutral in nature, although a slight degree of alkalinity is of but little consequence, for it is generally neutralized by the trace of acid which is invariably present in woolen goods after dyeing; this acidity of the goods and the alkalinity of the soap tend to neutralize one another.

Before woolen yarns and cloths are dyed it is usually necessary to remove any oily matter which they may contain. This is done in a soap liquor, and a very common soap soap for this purpose is one made from bone fat and cotton oil: occasionally rosin is added. It is not needful to have a neutral soap: in fact a little alkalinity is rather desirable than otherwise, as it helps to emulsify the oil in the goods, and so makes its removal rather easier. The soap ought to be one which is fairly easily soluble in water, so that it can be readily washed out of the goods after they have been treated, as if any were left in it might tend to produce defects such as unevenness in dyeing.

Toilet Lotions.

(By Wilbur L. Scoville, in Southern Drug Journal.)

Glycerinated mucilage is a popular application to the skin as an emollient and soothing agent. There are a number of such preparations in the market, all of them being simple, and strikingly similar in composition and appearance. They are slightly viscid fluids, translucent and frequently depositing a slight filmy sediment on standing.

V. B. Dion has made a partial analysis of several of the leading kinds and has supplemented this with a comparison of the mucilaginous agents which are applicable to such preparations. The quantity of glycerin in these brands was found to be respectively 10 per cent, 12 per cent and 25 per cent. by volume. The last quality makes a lotion which leaves the skin sticky on drying and is unpleasant. The smaller proportions of glycerin make a much more agreeable application. It is not thought that a greater proportion of glycerin than 15 per cent by volume is pleasant to use.

The greatest differences in the lotions is shown in the mucilaginous agent employed. The agents found were quince seed, flax seed, elm bark, starch and chondrus. Marshmallow is more expensive, more difficult to preserve, and is probably not employed.

Starch is the cheapest agent, and is used in the proportion of one to two drams per pint. It has but slight emollient qualities in this proportion, and if employed needs another mucilaginous agent to impart these qualities. It may be employed in combination with mucilage of Irish moss, as a partial disguise to the latter and to impart the opacity which is generally expected in these lotions.

Irish moss mucilage is made by boiling with water in the proportion of one dram of moss to a pint of water. The boiling should be continued for a full fifteen minutes, and the mixture strained without expression to obtain a smooth and homogeneous mucilage. Even then it is likely to separate a flocculent and filmy mass on standing. It also has a straw color unless special care be taken in selecting the moss and in boiling.

Elm bark mucilage is thick and has excellent emollient properties. It has a decided brownish color and is easily precipitated by alcohol. It should be made by boiling to reject pectinous matters, which even then are not wholly eliminated. It also deposits a sediment on standing.

Quince mucilage is perhaps the most used of any. Its emollient properties are excellent and it is not unpleasantly viscid. It is miscible with alcohol without coagulation, and its appearance is attractive. But it is difficult to obtain it in a smooth and attractive condition. It is usually betrayed by the presence of minute black specks and a grayish-white sediment which settles on standing.

Flax seed mucilage resembles quince mucilage in its appearance and physical properties, but is smoother and free from the unsightly specks of the latter. It seems to be the best agent for these lotions from an artistic point of view, and it is not lacking in emollient qualities. Like the others it is best made in the proportion of a dram of seed to a pint. The following makes a typical mucilage: Pour a pint of boiling water on a dram of whole seeds, cover, stir frequently during an hour, then strain without expression. This makes the best appearing mucilage of any of the agents tried.

One of the commercial lotions was found to contain 12 per cent of alcohol: the others contained only traces of alcohol and had antiseptic agents to prevent souring. A small amount of alcohol adds to the stimulating, and, perhaps, to the healing qualities of the lotion.

The following formulas are types of lotions now in use. All the mucilages specified are made with boiling water in the proportion of one dram to a pint.

I.

Starch	4 drams
Mucilage of chondrus	8 ounces
Boric acid	2 drams
Glycerin	4 ounces
Cologne water	4 ounces

Boil the starch with the mucilage of chondrus, add the boric acid and glycerin, and, when cool, the cologne water. Half as much glycerin will make a more pleasant preparation.

II.

Flax seed mucilage	8 ounces
Boric acid	30 grains
Salicylic acid	20 grains
Glycerin	2 ounces
Cologne water	4 ounces
Rose water	4 ounces

Handerchief perfumes may, of course, be employed in place of cologne water as scenting agents. It will be found, however, that the brighter odors, as lilac, ylang-ylang, rose, etc., are more agreeable in this than the heavier or more delicate odors.

Fahrenheit's Thermometer.

Writing in Knowledge on the history of Fahrenheit's thermometer, Prof. Cleveland Abbe, of the United States department of agriculture, says: "There is every evidence that the Fahrenheit scale began with his use of plus 90 as the upper limit of the temperature of the human body, and minus 90 for the lowest temperature of the air in Europe, and also the temperature obtained by the mixture of salt and ice. Fahrenheit subsequently used a second scale in which plus 12 and minus 12 replaced the plus 90 and minus 90. In 1714, he adopted a third scale, viz., plus 24 for the temperature of the body and zero for the lowest temperature at Dantzic in 1709. His fourth scale was plus 96 for the temperature of the human body and zero for the great cold of 1709. This scale gave him 32 as the temperature of melting ice, but that natural point was not directly adopted by him. With this first satisfactory mercurial thermometer (made in 1721, and whose scale was graduated according to this last system but extended much further upward, by extrapolation) he found that the boiling point of water was constant, or nearly so, at 212 degrees. The fact that Newton's 'arithmetic scale' read 33 or 34 for boiling water, had no influence with Fahrenheit in the formation of his scale."

Scent Production In Australia.

The transfer of the control of the customs from the states to the federal government of Australia will be bad for the scent-producing industry of the colonies. Some years ago the Victorian government, principally on the strength of the report of a royal commission on vegetable products, encouraged the production of scent-producing plants. Statistics were published showing the importance of the industry in the south of Europe, where the climatic conditions are similar to those of Victoria, and in order to encourage the local manufacture of scent from local grown plants, a concession was allowed to manufacturers to use the spirits required free of duty. With this concession some manufacturers laid themselves out for the business, and invested considerable capital in it. Agriculturists became interested, and carried on experiments to see what plants could be grown on their land. Now, with a change in the fiscal system of the Australian states rendered necessary before the formation into a commonwealth, the efforts to build up this industry will be nullified. The concession of the use of spirits free of duty has been refused by the federal government without substituting anything else, such as a customs duty on scents containing spirits imported into the colonies, or a bonus upon the quantity produced. Scent manufacturers and others concerned are accusing the federal ministers of a breach of faith. It is said that the federal ministers emphatically stated that no state industry would be destroyed. In this instance, however, they have without warning taken a step which is calculated to destroy an industry introduced and encouraged by the state. An organized movement is being made to bring the grievances of the manufacturers before the customs authorities.

How Peppermint Is Grown.

That 300,000 pounds of peppermint oil are annually consumed by the world, and that more than 90 per cent of this is grown within seventy-five miles of Kalamazoo, Mich., are two of the interesting facts about peppermint told by Charles B. Richardson in an article on the subject in the Rose Technic. Kalamazoo, Mr. Richardson tells us, may fairly be called the center of the essential oil industry of the world. Formerly Wayne County, N. Y., was the peppermint center of the world, but the product for this year was only 1,000 pounds, so that this industry in New York has practically passed into history. The writer goes on to say:

"The 'mint' industry is a specialty with peculiar features combining farm and factory—agriculture in growing the plant, and manufacture in separating the oil from the plant by distillation. There are about 80 'stills' in Southwestern Michigan, and since there are 4,000 acres of the plant under cultivation, we see that one 'still' is required for every 50 acres of peppermint.

"The mint is grown on marsh or 'muck' land, which is coal black in color and very moist; so moist, in fact, that in a rainy season water may be seen standing all over a large field. The land, prepared as for a garden in the fall, is laid off in furrows early the following Spring. The furrows are three feet apart and run north and south, if possible, so that the sun will strike both sides of each row. This work is done the first of April and the planting should be completed in the same month. The roots for planting are 'root-stocks' or 'runners,' like strawberry runners, only they run just under the ground like hop 'roots,' instead of on top of the ground like berry runners. They are pulled with potato hooks from new mint of the preceding year; two men

working on each row, one pulling, the other following, shaking out the muck with a fork. The roots, thus cleaned, are taken to the furrowed field, where the planters proceed to put them in the ground. Each planter has a burlap sack holding three to four bushels of the roots, and with this swung over his shoulder, he takes a furrow or row, draws the roots from the sack with the right hand, holding back the roots at the mouth of the sack with the left, and with a peculiar 'up-lift' forward motion throws them straight into the open furrow. The roots are from one to two feet long and thus, in planting, a continual line of roots is formed. These are slightly covered with dirt and pressed into the ground by the feet of the planter as he moves forward. A roller is then passed over the ground.

"The fields are kept clean by cultivating and hoeing until about the 20th of June, when runners start, and the weeds are pulled by hand, until 'stilling,' which begins August 1 and continues until about the 20th of September. The mint grows to a height of about three or four feet. The mint is cut with scythes, each row being passed over twice, because the row parts in the middle and falls in a tangled mass on either side. It is left to wilt thoroughly, and is then bunched and drawn like hay to the 'still.'

"The wilted mint is here pitched into large tubs seven feet top diameter, six feet bottom diameter, and six feet high. Two men walk around on the mint in the tubs and tramp it solid, after which a steam-tight cover is let down, closing the tub. Steam is let in at the bottom of the tub, breaking the little sacks on the under sides of the leaves which contain the oil and converting this released oil into vapor. The steam and oil vapor pass upward and escape through a pipe near the top of the tub into the 'worm,' which is a series of tin pipes, one above the other, two inches or more in diameter. Cold water is caused to drip from above upon the 'worm,' and this condenses the vapors. The water and liquid oil pass out at the end of the 'worm' into a receiver, where the two liquids are separated by gravity, the oil being lighter than water. All the oil is removed from the leaves after steaming for an hour, and from one to ten pounds of oil are obtained from one tub. The oil thus obtained is 90 per cent pure. The juices of weeds, which are more or less mixed with the mint in the tubs and other foreign substances are removed from the oil at refineries.

"The price of peppermint oil six years ago was 70 cents, now it is $5 per pound. The price has advanced within the last month from $2.50 to $5 a pound. This advance was caused by one of the largest growers in Michigan having bought up 95 per cent. of the oil produced this year, practically cornering the market. The total value of the crop this year is approximately $650,000, and the advance in price, caused by the corner, is in the neighborhood of a quarter of a million dollars. With the price at $5 a pound, peppermint is a very paying industry, since from ten to forty pounds of oil are produced per acre and the cost of cultivation is only from $15 to $25 per acre.

"The growing of peppermint has not been remunerative for the past five years, and the market in New York and London has been ruined by manipulations and adulterations. There is a constantly increasing demand for the oil, and an idea of the trade may be gained from the fact that this oil enters into the manufacture of various pharmaceutical articles, confectionery, gum, toilet waters and perfumes, extracts, etc.

"A large field of peppermint is a very pretty sight indeed, especially when the plants are about half grown, at which time the foliage is the brightest green and shows up very nicely against the coal black soil beneath.

"The oil is handled in two and one-half gallon tin cans, which when filled weigh twenty pounds. Thus $300 worth of oil can be packed in a little box 30 by 8 by 12 inches, and it sometimes happens that a man's entire crop can be packed in a peppermint oil box of this size."—Literary Digest.

Is This An Advertisement.

A most interesting paragraph has ben going the rounds of newspaper offices throughout the country. A girl employed at the works of a well-known firm of soap-manufacturers had the misfortune to lose her purse; every search was made, but without result. The sympathy the girl's fellow employees felt with her prompted them to make good her loss, and relieve her depression. Then comes the sequel. The daughter of a local publican found the purse and took it to her father. Nothing about the purse to be seen or felt afforded the remotest clue, yet the paragraph goes on "in two minutes he made up his mind as to whence it came. The smell of—— soap works about it gave the idea, and upon applying at the works the day after, he was soon satisfied that his judgment, aided by the scent of —— soapworks," had guided him to the rightful owner. The proprietors of this wonderful soap works have had a good enough advertisement already without our mentioning their name. 'Tis a pretty, pretty story.—Oils, Colors & Drysalteries.

Fuller's Earth.

The proprietors of fuller's earth were at one time prohibited from exporting it, not out of a partial regard of the legislature of those days for the great woollen manufacturers, but lest the number of persons employed in that industry should have been much lessened if foreigners had been supplied with an article so essentially necessary to its perfection as fuller's earth is found to be; and, although other nations have fuller's earth, yet that

which is met with in England was reckoned to be fitter for the woollen manufactory than any other which had up to then been found in any part of the world. Attempts have recently been made to bring coals to Newcastle by booming foreign imported fuller's earth under high-sounding chemical titles as an oil-refining agent. Times have apparently changed, and the new order of things in fuller's earth, as in many other commodities, would be—if those interested had their way—a reversal of the old. In any case, the fuller's earth of Great Britain is still unrivaled, either as an oil-refining agent or for the purpose from which it takes its name.

The Laundry of Life.

Life is a laundry in which we
Are ironed out, or soon, or late.
Who has not known the irony
Of fate?
We enter it when we are born,
Our colors bright. Full soon they fade.
We exit "done up," old and worn
And frayed;
Frayed round the edges, worn and thin—
Life is a rough old linen-slinger.
Who has not lost a button in
Life's wringer?
With other linen we are tubbed,
With other linen often tangled;
In open court we then are scrubbed
And mangled.
Some take a gloss of happiness
The hardest wear cannot diminish;
Others, alas! get a "domestic finish."

—*Chicago Tribune.*

The Successful Credit Man.

Until the time comes that sales of laundry machinery and supplies are made only for cash, or until the industry has a common information bureau so far-reaching and unerring that the knowledge of a customer obtained by one shall speedily become the property of all, the credit man will continue a necessary part of every establishment selling to the laundry trade at large. As such it is important that the particular province of this individual should be rightly understood by those who are brought into contact with him personally or through correspondence. In this case, not only is his necessary work facilitated, but that good feeling which should exist between different members of the same great trade is promoted.

At first appearing to be a mere information agent and attorney for his employer, the credit man is, in fact, a watchman of the interests of the whole trade, protecting, in so far as possible, reputable persons and firms from the assaults of irresponsible and unreliable people, while increasing the favor of those whose responsibility and reliability have only been strengthened by investigation and experience.

The qualifications of a successful credit man are many. He must be first of all a close student of human nature; be possessed of infinite patience and unlimited tact; must have the faculty of extracting needed information without giving offense, coupled with rare good judgment and the ability and courage to rule according to the dictates of sober reason. His responsibility is great in that credits are extended or withheld at his decision, and any error may mean an ultimate bad debt or the loss of a valuable, though wrongly estimated, customer. Detailed personal data regarding the financial circumstances, business methods and personal habits of a credit-seeking laundryman are essential to the proper conduct of his department. This is obtained in various ways, direct and indirect, the groundwork of all being the reports of the commercial agencies which, though far from faultless, are the best means of general information at hand.

The opinions of nearby bankers, courteously sought by letter (enclosing stamped and addressed envelope), are seldom refused, and these are likely to be trustworthy save in special instances where a banker is the secured creditor of the applicant, and is anxious to further secure his own claim by encouraging additions to his assets at the expense of others. The opinions of traveling salesmen are worthy of consideration, but entire reliance upon them is unwise for several reasons, among them that traveling men and laundrymen are frequently acquaintances or friends, a circumstance sure to affect a careful judgment of a credit risk. The pardonable eagerness of salesmen to display large transactions may often influence them unwisely in favor of the credit seeker, though their enthusiasm in their friend's behalf may be curbed by a number of pointed questions by the head of the house.

The first object of the credit man is to keep the delinquent account down to a minimum and avoid all possible losses. In order to do this let him bear these main points always in mind: If the laundryman in question (1) is a loose, happy-go-lucky fellow; (2) is careless in his business methods; (3) buys of everyone on the spur of the moment; (4) remits continually "on account" rather than in full; (5) pays some drafts and lets others go back protested, the thing to do is to see that his account is kept within limit and that he pays promptly at maturity. He is a fair risk if followed up closely. But if he (a) gets to his place of business at noon; (b) wears better clothes than he can afford; (c) is inclined to be a "sport"; (d) is overmuch addicted to the cup that

cheers; (e) is openly careless of his obligations, or (f) has ever had a "crooked" failure, prudence demands that his account be closed up at the first opportunity and that no further business be sought. The laundry machinery or supply house following this course may miss a few orders, while its competitor may think it has gained the advantage. But fortunate is the house whose credit man may congratulate himself rather than scowl when the inevitable failure becomes known. The closer such things are guarded against the better for all concerned in the business.—National Laundry Journal.

Eucalyptus Oil Production In The United States.

While the stem and branches of the eucalyptus furnish timber and fuel, the leaves and twigs are the source of a very important oil. In Australia many species yield sufficient quantities to enable them to be utilized for oil production, but most of the oil produced there is obtained from three or four species. For many years the production of eucalyptus oil has been an important industry in that country. One of the first investigators and producers of this oil was J. Bosisto, of Melbourne. Baron von Mueller states in the Eucalyptographia that in 1880 Bosisto was producing six tons of oil per year. Since then the demand for the oil has increased very much, and a much larger quantity is produced in Australia annually. During the past ten years considerable eucalyptus oil has been produced from the Blue Gum plantations in Algeria, it having been found advantageous to obtain the oil from solid plantations of one species rather than from native forests where the species grow mixed. In California considerable oil has been extracted from the blue gum during the past five years. The principal producer is a physician in Los Angeles, who is attempting to establish a reputation for putting up a pure, high-grade product. During the winter of 1900-1901 he extracted nine tons of oil. He does not distill out any eucalyptol, as he considers the oil in the form he puts it out superior for most purposes. The residue from the distillation of the refined oil from the crude product is put up for a salve. From the oil he manufactures a soap and cough drops. Hon. Ellwood Cooper has a young blue gum plantation on his ranch near Santa Barbara, from which he intends to manufacture both eucalyptus oil and eucalyptol. He will cut the trunk and limbs into fuel, extract oil from the twigs and leaves, and thus utilize the entire tree.

The different species vary greatly as to the amount of oil they will yield, the range being from none to 500 ounces from 1,000 pounds of fresh leaves and twigs. According to J. Bosisto and other Australian authorities, and S. M. Woodbridge, of Los Angeles, the peppermint tree (eucalyptus amygdalina) yields the largest amount. But in America this tree is not grown extensively enough for it to be a source of much oil. For some years yet, and perhaps always, the chief source of eucalyptus oil here will be the blue gum. The yield of crude oil from the leaves and twigs of this species ranges from 1 to 1.6 per cent. Dr. Herron extracted, during the past season, nine tons of oil from 700 tons of leaves and twigs from this species—a yield of 1.28 per cent. H. B. Silkwood, proprietor of the California Eucalyptus Works, Garden Grove, Cal., reports that he produced one ton of oil from 100 tons of material during the past year, the output being limited by the available supply of blue gum leaves. The red gum yields much less oil than the blue gum—only 10 to 30 per cent as much.

The oils from the different species of eucalyptus differ greatly. As extracted they are all compounds or mixtures. The chief ingredient of the oil from the blue gum is a colorless, transparent, camphoraceous liquid called eucalyptol or cineol; of the peppermint tree (eucalyptus amygdalina), a less known liquid, called phellandrene; of the lemon-scented eucalypt (E. citriodora), a fragrant, highly volatile liquid, called citronellon, mixed with another fragrant liquid called geraniol. Several other ingredients enter into the composition of the oils from the various species. The best known of all the ingredients is eucalyptol, which constitutes about 60 per cent of the oil from the blue gum.

The medicinal properties of the various component parts of eucalyptus oil differ widely. Hence the oils from different species have different medicinal values. Unless eucalyptol, the chief ingredient of blue gum oil, has the same effect upon the human system as phellandrene, the prominent ingredient of the peppermint tree oil, the oils from these two trees must necessarily have different medicinal properties, and the oil from a forest of mixed species must have very uncertain medicinal properties. The eucalyptus oil produced in America, where the groves from which leaves are obtained for oil are commonly of one species, and where, with rare exceptions, a single species (blue gum) is the source of all the oil extracted, will necessarily be a product whose properties are better known and more constant than that produced from mixed native forests. Hence the importation of eucalyptol or eucalyptus oil from Australia and elsewhere is both unnecessary and a disadvantage to the consumer. As Hon. Abbot Kinney remarks in his "Eucalyptus":

"The increased use of the eucalyptus oils derived from the solid plantations of E. globulus in California and Algiers is thus seen to rest upon reasonable grounds and must give increased reliability to medicinal preparations from the eucalyptus."

Eucalyptus oil is so useful and popular information concerning it is so meager that a few words concerning it will not be out of place here. This oil has been used

for about forty years, but only during the past ten years has it been employed in medicine very extensively. Its use is now constantly increasing, as its properties and medicinal value become better known. All druggists questioned on the subject stated that the demand for eucalyptus oil was rapidly increasing. Two wholesale druggists of Los Angeles both stated in letters to the writer—written in response to inquiries on this point—that their sales of the oil had increased very much during the past few years.

The fact that it is non-poisonous and non-irritant makes it especially safe and valuable. As much as a fourth of an ounce has been taken internally without injury, and it may be freely applied to the most delicate tissue. Notwithstanding the fact that it is neither dangerously poisonous nor irritating to the human system, it is a very effective antiseptic and disinfectant, and has come to be used quite extensively for dressing wounds, ulcers, and other diseased tisues. It enters into the composition of several antiseptic preparations. The oil is also a well-known remedy for malarial and other fevers, and is used in treating diseases of the skin, and of the stomach, kidneys and bladder, and is especially valuable for affections of the throat, bronchi and lungs.

In using eucalyptus oil it is important that a pure article be procured. Unfortunately there is considerable adulteration of this oil with cheaper, inert or harmful ones. No doubt this remedy would be a more popular one but for the fact that so much of the oil for sale on the market is of such an uncertain nature. The safest way is to purchase none in bulk, but buy it in bottles put up by a reliable person or firm. It costs more in this form, but is far safer to use as a remedy.

The leaves of the blue gum and of a few other species, on account of the oil they contain, are employed as household remedies in localities where the trees grow. Among the natives of Australia they are said to be in common use for dressing wounds, and for other purposes. In California, teas and poultices are made from the blue gum leaves for the treatment of colds, catarrh, croup, bronchitis, and other affections of the respiratory system. Some go so far as to use regularly tea made from the leaves of blue gum, and, as they assert, with beneficial results.

Candles From The Sea.

For thirty years past after every gale candles have been cast ashore near Wimereux, three miles from Boulogne, evidently relics of a shipwreck.

At first they were found singly, but now they are cast ashore in packets. Though quite black, they still burn freely when lighted. There is no clue as to the wreck or as to the reason for the candles being washed ashore.

Bribery In The Oil and Soap Trades.

In the course of a lecture delivered by Mr. F. W. Richardson, F.I.C., the analyst of Bradford, England, under the auspices of the Bradford Textile Society, made some startling revelations to shady transactions in the oil and soap trade. He had been delivering a lecture on oils and having outlined the methods by which the principal mineral, animal and vegetable oils are obtained and the uses to which they are applied said one other matter calls for consideration, although it may be said that this is outside my subject—the question of "palm oil," not that obtained from the palm tree, but that which soothes the itching palms of avaracious men. In fine, I wish to comment upon the system of bribery which so largely obtains in the oil and soap trades. I refer to this system because it is the great block in the way of science and its application to local industries. Perhaps I feel it personally. Indeed, I have proved scores of times that when "palm oil" comes in at the works' door the accurate analysis may just as well be thrown in the fire. "Despite your report, which certainly seems to show that oil A is worth 20 per cent more than oil B, I am assured by my man who has the oil department in hand that oil B is far and away the better of the two; that indeed, oil A is quite worthless for our purposes. (Laughter). So speaks the principal of the firm, and our analysis is transferred to the waste paper basket. (Hear, hear.) Subsequently we learn that the 'tip' offered for A is only half that offered for B? The principal is made aware of the real state of affairs. Is he horrified? Does he dismiss the corrupt workman? On the contrary, his equanimity is undisturbed. He says: 'Well, I am told all these men act in this way, and as I find the man to serve me well in other respects I shall not dismiss him. I might make a bad change.' "

Inferior oils and soaps are extensively used in this district, while good articles might be bought at the same or even a less price, and these inferior articles continue to be used in spite of reports and analyses showing their inferiority. For the sake of argument—if a merchant buys a mineral lubricating oil at £20 a ton and offers it at £25, out of which price he arranges to give £1 10s to the man in charge of the oil department, he will do better than the man who pays £22 for a much superior oil which he also offers at £25, but with only 10s as a bribe to the employee. How does this work out in practice? The firm employing the corrupt workman is the loser in ways not at all evident on the surface. With an inferior oleine in cloth manufacture, let us say, much more alkali, soap, and labour are required to produce the same result as that obtainable with a good oleine offered at the same price, but not accompanied by a bribe. I have analyzed soaps very deficient in quality, highly charged with 'filling.' These have been said to give altogether superior results from pure soaps of 20

per cent better value. I have challenged conclusions with the soap-man—the miller of cloth in this particular case to which I refer. I have carried out the making of the solutions and trials myself, and the man has visibly paled as the poverty of the soap he has vaunted as being so superior has been proved, and the excellency of the article he has rejected has been demonstrated. Quite recently an oil merchant assured me that in one large works where tipping or bribery has been made impossible, oil is being used which has only cost a third of that which is being regularly supplied to firms whose principals supinely 'wink the other eye' at this widespread system of corruption—a system which costs our industries very dearly in ways not apparent on the surface, and a system which completely cheats the proper end of aim of science, to obtain the largest amount of work of the best quality at the lowest cost. (Applause).

It is said that men who receive the bribes get insufficient wages, and must look to the reception of 'tips' to make their remuneration adequate. If this be the case, then it is high time the principals of works employing such men should give better wages on the condition that tipping shall be absolutely abolished. If a man receives a wage of £2 and bribes averaging £1 a week, it would pay the employer better to give £3 10s or £4 a week, and abolish the corrupt practice, which, while it increases his workman's wage, opens the door to deep dishonesty, and cheats the true trade principle which demands that an article should be sold and bought on its merits. (Hear, hear). For every £1 received by the workman in "palm oil," the employer probably indirectly loses £10. 'But is it not dishonest to offer workmen these bribes?' My answer is: 'The merchant does not offer; it is the workmen who demand their "tips."' I am assured that it is very difficult for any oil or soap merchant to do business unless he swims with the tide of corruption. Those who try to swim against it are often unsuccessful. Moreover, the vendor takes this sweet unction to his soul, that it is 'the custom of the trade,' and the people to whom he sells are 'in the know,' although they don't openly declare the fact. (Hear, hear).

From time to time I have seen numbers of letters which oil merchants and soapmakers receive at Christmas time. The general formula of these epistles runs: 'Wishing you a happy Christmas and prosperous New Year, and hoping to hear favorably from you. (Laughter). If the writers do not receive 'favorable' replies, their blessings quietly turn to curses, and a few handfuls of dirt, or fine sand in the case of lubricating oils, or a little lime in the case of soap, spoil and bring about complaints as to the quality of materials, and a transfer of the firm's custom to some merchant who pays for his Christmas benediction. One large local firm has found it necessary to send out the following intimation to the people from whom they buy their materials: 'Please note that we do not allow Christmas boxes or gratuities of any kind whatever to be given to any of our employees. Any infringement of this rule coming to our notice will cause us at once to close our account with you, as well as result in the immediate dismissal of the person receiving such gratuity.' It is from such wise action as this, accompanied by rigorous inspection, that we may some day hope to see the end of this corrupt system, as disastrous ethically as it is destructive to the union of science and industry, which is essential for all true progress.

Fish Tallow.

It is well known that fish oils cannot be used for candle or hard soapmaking, both on account of the deficiency of the glycerides of solid fatty acids, and on account of the disagreeable smell. It is said, however, to have been discovered that if a fish oil is kept stirred for several hours with a mixture of concentrated sulphuric and nitrous acids, not only is the disagreeable smell removed, but a solid product is obtained which can be used for candlemaking, or for the manufacture of hard soap. The process is as follows: Any fish oil being placed in a vat, and the agitator being set to work, concentrated sulphuric acid to the amount of from 20 to 25 per cent. of the weight of the oil is slowly added, and then finely powdered sodium nitrite in sufficient quantity to give about 5 pounds of free nitrous acid for every 100 pounds of fish oil. The vat must be kept surrounded by cold water, as the temperature must not be allowed to exceed 50 degrees C. At the conclusion of the process, the grease is thoroughly washed with hot water till quite free from every trace of acid.

Unfair Competition.

The rule governing unfair trade competition is thus stated: "Where a complainant has been in business for many years, and has built up a high reputation and large sale for its goods, rendering its good will valuable, the law requires another, entering the market as a competitor to use such method of wrapping, labeling and cataloguing of his packages as not to lead an intending purchaser of ordinary intelligence, using ordinary care, into the mistaken belief that he is purchasing goods of complainant." In cases where unfair competition is proven the courts have decided that "Profits recoverable in equity for unfair competition are governed by the same rule as in cases of infringement of trade marks, and are not limited to such as accrued from sales in which it is shown that the customer was actually deceived, but include all made on the goods sold by the defendant in the simulated dress or packages, and in violation of complainant's rights."

Commercial Civet.

The commercial article of civet is commonly adulterated with petroleum jelly, and Ernest J. Parry (Amer. Drugg., xli, p. 396) gives a method of detecting the adulterant. It consists in extracting the civet with acetone until nothing further is removed, and then extracting with petroleum ether, which takes out the petrolatum. The residue after the acetone extractions is a grayish, powdery mass, which may contain appreciable quantities of petroleum jelly without appearing stieky. The petroleum-ether extract is highly fluorescent when petroleum jelly is present.

Can't Always Pick.

"I have just been reading an editorial in 'Success'" said the old business man. "The editor spreads himself over two or three pages with advice to the young, which if boiled down amounts to this: 'Be sure you get into the business you are adapted to. It is a great mistake and almost a crime for you to get into some line of business which you have not a natural taste for.'

"Now that sort of talk sounds nice and it is easy enough to say, but as a matter of fact it is largely rot. The men who have made the greatest success in business for the most part were poor boys who had to take any sort of a job that offered, whether it suited their taste or not. The boy who turns down a job because it doesn't strike his fancy or suit his taste is mighty liable to turn out to be a lazy loafer, not worth two whoops in a water barrel. Another thing, the average boy or young man for that matter doesn't know for what business he is best suited for. Let him pick out a business and he is liable to make a fool's choice. My ambition as a boy was to drive a stage coach. Afterwards I thought my ambition would be settled if I could be a teacher of penmanship and make birds and fancy curves with the pen. I don't think now that I would have made any considerable success if I had had my way. Who ever heard of a stage coach driver or a writing master cutting any figure? In fact, if I could have had my way, I would have been dissatisfied all my life. The average boy wants to get into some business where he thinks he will have a good time, not have to work hard and wear good clothes. Let the boy choose the business he will follow and he will choose wrong about three times out of four. And his parents are not so very much better prepared to tell what the boy is good for than he is. They are liable to start him off in some line he is not suited for. The fact is that the boy who is really a hustler is mighty likely to drift into a line of business he is adapted to. He will, as a boy or young man, take the first honest job that comes to hand and do it as well as he can. Opportunities will open up for him and he will naturally take hold of the thing that offers the best chance and make a winning. There isn't so much in this theory that each man is cut out for some particular line of business as a good many people imagine. A man with a fair amount of gumption and a hustler will do good in most any line of business, and the man who is not a hustler and who lacks gumption will fail no matter what line of business he undertakes."—Merchants' Journal.

Kapok Oil.

In the East and West Indies and South America there is a great profusion of the genus Eriodendron, belonging to the Malvaceæ. It consists of large trees with large red and white flowers. The fruits are five-chambered and contain numerous seeds with a wooly ariflus.

A species of the genus which has recently been recognized as of commercial value is E. anfractosum (alias Bombax pentandrum), the kapok tree. It grows to a height of 50 or 60 feet, and occurs in Java as well as in the localities above named. Its flowers are yellow, and the seed hairs resemble cotton, but have neither the staple nor the strength of that textile fibre. These hairs nevertheless form an excellent substitute for horsehair for stuffing mattresses, etc., and for packing. The seeds are eaten by the aborigines, sometimes raw and sometimes roasted.

The seed is already used to some extent for oil-making in Holland. Both oil and press cakes were investigated by Henriques and Reinder, but no accounts have as yet appeared of the oil (*huile de capoquier* in French) in technical literature.

The average weight of 1,000 seeds is 44.52 grammes, or say an ounce and a half avoirdupois, and a composition as follows:

Water	11.85	per cent
Crude proteine	18.92	"
Fat extracted by petrol ether	24.92	"
Fibre	23.91	"
Non-nitrogenous matter or carbohydrates (by difference)	15.90	"
Ash	5.22	"
	100.00	

The seeds are of the size of peas and are enclosed in a hard black shell constituting 43 or 44 per cent of the weight. They are free from hairs, and hence do not require the precautions in oilmaking which have to be taken with cotton seed. A light crushing between rollers and winnowing through sieves in a regulated current of air separates the husk from the kernel. If the whole seed is crushed in the oil press the yield of oil is 17.8 per cent.

The oil is pale yellow, of an agreeable smell, and being rich in stearine is rather thick. It resembles, except that

it has not its reddish brown color, cottonseed oil both chemically and physically.

The oil is rather difficult of saponification. It can be used for food and in soap manufacture. In India it is used for lighting purposes. The press cakes resemble dark sesame cakes, and are used in the countries of origin as manure.

He Wanted It Stopped.

Some philosopher has said that "stopping the paper is the hardest thing in the world." Mr. W. Sheppherd, of Albany, N. Y., seems to have found it so. Mr. Sheppherd recently wrote the following letter to the publisher of the National Engineer. (Let the reader kindly remember that the writer of the letter means copies of the magazine when he refers to books):

"the national Engineer I have Bin receiving them Books. i do Not Wish them So Please do not send any more I have Send the all Back. as i am not the man there is more Shepherds than me So i will Send them Back i do not live at 104 4. ave albany i did live thear. But I moved 2 years ago. But i am not the man So i will Send them Back i do not Want any Books I received these Books in in. 4. ave a year ago and I never could find where to Send them till Now the Shepherd you mean is not me where i live there is three in the same St I am no Engineer

"So Please Send no More Books the Shepherds are not alike

"W. Sheppherd.

"I do Not Wish no more Books."—Ex.

PATENTS AND TRADE-MARKS.

The following list of recent Patents and Trade-Marks is reported by W. G. HENDERSON, Solicitor of American and Foreign Patents and Trade-Marks, Norris Bldg., Washington, D. C. A copy of any of the following will be furnished by him for 15 cents.

PATENTS.

723420. Washing machine. Merritt L. Stoddard, Cleealvnd, Ohio.

723537. Washing machine. Charles P. Lancaster, assignor of one-third to E. A. Minehart, Jonesboro, Ind.

723563. Shaving brush and soap holder. Arthur Q. Walsh, New York, N. Y.

723648. Washing machine. Alonzo A. Casler, Mansfield, Ohio, assignor to T. B. Crary, Binghampton, N. Y.

724026. Washing machine. James McKenzie, Glasgow, Scotland.

724221. Device for laundry use. Joseph A. Treat, Cleveland, O.

724771. Soap-mold. Victor Alexa, assignor to W. Schridde, Chicago, Ill.

TRADE-MARKS.

40023. Substitute for soap for use in shaving. Edgar L. Mayo, Elmira, N. Y. The words "Formal Saponia."

40024. White laundry soap. Willard G. Crane, Auburn, N. Y. The representation of two cranes standing in water.

40025. Soap powder and laundry soap. Lewis Bros., New York, N. Y., and Chicago, Ill. An Alpine scene representing snow-capped mountains and persons ascending the same, together with a panel upon one of the mountains and figures represented as scouring the panel.

40026. Bluing. The Sawyer Crystal Blue Company, Boston, Mass. The hyphenated word "Crystal-Blue."

LABELS.

9810. Title: "Our Baby's Bath Toilet Soap." (For Soap.) The Liberty Soap Co., Chicago, Ill.

9811. Title: "Baby's Bath Toilet Soap." (For Soap.) The Liberty Soap Co., Chicago, Ill.

DESIGNS.

36287. Cake of Soap. Edwin Ross, assignor to Armour & Co., Chicago, Ill.

AROUND THE SOAP FACTORIES.

News items sent us by our readers will find prompt attention in this column

A boiler explosion three weeks ago wrecked the rear portion of the soap factory of Weaver, Kengla & Co., Georgetown, D. C. The damage is estimated at $1,000. One workman was slightly injured.

Genseke Bros.' soap factory at Streator, Ill., was damaged by fire on April 1st.

Will Colepaugh is entering the list of soap manufacturers at Southburg, Conn.

The Klenene Soap Company, of Brooklyn, has been chartered by the secretary of state, with the following as directors: Alfred Nicholls, George E. Lewis, George L. Florence, George C. Florence and John De Witt, of Brooklyn.

Moses Marienthal & Sons' glue and tallow works at Cincinnati, Ohio, sustained a $20,000 fire loss last month.

The report comes from Cincinnati that the Proctor & Gamble Company will issue shortly $750,000 new stock. Authorities on the affairs of the company in that city say they have not yet heard directly that there is to

be such an issue, but believe if such stock is issued it will be for the purpose of purchasing two important soap manufactories in Chicago and Kansas City.

The Holbrook Soap Co., of New York, had a fire in the early part of April.

Francis H. Macy, formerly of Josiah Macy's Son, New York, died last month, aged 81 years.

Louis F. Swift has been elected president of Swift & Co., succeeding his late father. Edward F. Swift, his brother, has been elected vice-president.

The Cosmo Buttermilk Soap Co., of Goshen, Ind., has increased its capital stock from $100,000 to $150,000.

Clapp Brothers Mfg. Co. is the name of a new firm at Davenport, Iowa, organized to manufacture soap.

The Queen Soap Co.'s factory at Marshall, Mich., was destroyed by a fire on April 9th.

The proposed purchase, as reported last month, of the Standard Soap Works at West Berkeley, Cal., by Tillman & Bendel, of San Francisco has since been completed. The new proprietors intend to operate the plant on a much larger scale than has recently been the case.

Last month the death of Mr. N. K. Fairbank occurred so shortly before our going to press, that we could print only a brief statement of the fact, without as much as a short outline of his interesting life.

Nathaniel K. Fairbank was born in Sodus, Wayne County, New York, in 1829. He received a common school education, applying himself also to study at home, and at the age of fifteen was apprenticed to a bricklayer. The year following he went to Rochester, in his native State, where he served the term of his apprenticeship, after which he entered a flouring mill, in which he occupied the position of bookkeeper for six months, and was then admitted to a partnership. In 1855 he went to Chicago, engaging in the grain commission business, and represented David Dows & Co., of New York, as their western representative. His connection with this firm extended over a period of ten years, when he became financially interested in a lard and oil refining enterprise, furnishing the capital for the erection of the refinery, and becoming a member of the firm of Smedley, Peck & Co.

In 1873 the firm of N. K. Fairbank & Co. was formed, and in 1885 was incorporated with $1,000,000 capital. It engaged in the manufacture of cottolene, and in 1891 was merged with the American Cotton Oil Company, in which Mr. Fairbank was a director. Mr. Fairbank also organized a canning company, which was sold at a large profit. He was interested in the manufacture of soap to a large degree also. Mr. Fairbank was active in the Board of Trade of Chicago, and took part in the great wheat "corner" in 1872, the account of which is said to have formed the basis for the most thrilling chapters of Frank Norris' last novel, "The Pit," a story of the Chicago grain market. While Mr. Fairbank lost heavily in that "corner" he made money in one the following year. He was also a heavy loser in the Cudahy "corner" in 1893. He once said, "I can lose a million to-day and make it back to-morrow." He is said to have been the "nerviest man who ever bought wheat by the million bushels."

He was a director in the Commercial National Bank, the Elk Rapids Iron Company, and vice-resident of the Auditorium Association. He was at one time president of the Chicago Board of Trade, was for thirteen years president of the Chicago Club, whose home he was instrumental in securing, and aided in the building of Central Music Hall. He secured the payment of the indebtedness on the Newsboys' Home of Chicago, and a new building for St. Luke's Hospital. He was interested in the Festival Association, aided in supporting the Thomas concerts and was active in many other public enterprises. He was an admirer of Professor David Swing in the South Church, and followed him to the services in Music Hall, where he was a member of the board of trustees, and an active supporter.

Mr. Fairbank retired from business for a time in 1893 and went abroad for a year with his wife. She was Miss Helen L. Graham, and they had seven children. Mrs. Fairbank died several years ago. Their country home was at Lake Geneva, Wis. Mr. Fairbank had a large farm there. He was an especially enthusiastic fisherman.

Kansas City, Mo., papers say that the Standard Rendering Company, connected with the Nelson Morris Packing Company, which recently purchased the old desiccating plant in Armourdale, is preparing to operate a large soap factory.

The Standard Rendering Company is capitalized at $1,000,000. E. J. Mayer, the representative, was in Kansas City two weeks ago arranging for extensive additions to the old plant in Armourdale.

A charter has been granted to the Union Soap Co., of Wilkesbarre, Pa., which has an authorized capital of $50,000, nearly all of which has been subscribed. Wilkesbarre and Scranton business men are interested in the concern.

Consul A. L. M. Gottschalk, of San Juan del Norte, March 14, 1903, reports that by presidential decree of

February 24, all duties upon the importation of raw materials for the manufacture of common or laundry soap, are removed. The Nicaraguan tariff will probably be changed accordingly.

Incorporated: The National Soap Company, with offices in Jersey City, N. J., with a capital of $200,000. Incorporators: T. L. Marsalis, of 105 Chambers street, New York; H. V. Condict and Richard Boardman 15 Exchange place, Jersey City, N. J.

The Pennsylvania Soap Co., of Lancaster, Pa., which we mentioned last month, secured a charter on April 2, with a capital stock of $625,000, and the avowed intention of absorbing several soap plants in Pennsylvania. As directors are named: C. A. Miller, Lancaster, president; C. G. Engle, Columbia, secretary and treasurer; Jacob S. Miller, Lancaster; S. S. Gible, Lykens, Pa., and Thomas K. Beaver, Acadencia, Junita County. The Miller plant in Lancaster is to be absorbed and a big factory erected at Pittsburg.

The Texas Refining Co. is building a 100x200 foot, three-story brick structure for the purpose, chiefly, of manufacturing toilet soaps. They have made laundry soaps for the past four years.

The Kansas City (Mo.) Soap Mfg. Co. contemplates the erection of a brick building at Armourdale, to cost $50,000, and to serve as a soap factory in place of their old plant.

A suit for $35,000 damages has been filed in the circuit court against the city of Chicago by the Dawson Soap Company, 226 North Franklin street. The company alleges that the city did not afford them sufficient protection on the evening of March 16, when a number of boys and men broke into the company's factory.

Incorporated: The Purity Soap Co., of Worcester, Mass. Capital stock, $100,000. Officers of the company are: President, R. H. L. Talcott, of Brookline; vice-president, William H. Brewer, of Newton; secretary, H. Howard Whiting; treasurer, Fred I. Day, of Worcester. Directors are these officers and Gilbert N. Harris, of Boston, and Calvin B. Cady, of Brookline.

The Interstate Commission in the case of the Procter & Gamble Co. against the Cincinnati, Hamilton & Dayton and other roads, last week held that the action of the defendant roads in increasing the classification (and thereby the rates) of soap in less than car loads from fourth to third class, was unreasonable, unjust and unlawful. The decision affects all soap shippers in classification territory. In the words of the Commission: "The action of defendants in increasing the classification of soap in less than car loads from fourth to third class was unreasonable and unjust under the Act to Regulate Commerce, and their subsequent practice of applying 20 per cent. less than third class rates on such traffic is also unlawful."

F. W. Brown, of the Rome (N. Y.) Soap Manufacturing Co., has bought F. W. Billings' interest in the business, and Mr. Billings has purchased Mr. Brown's holdings in the Utica Dye Co., in which he was previously interested.

The Remmer Soap Works in Cincinnati was the scene of a fire on April 22. Owing to the fortunate fact that an engine company is located next door, prompt help prevented great damage.

Incorporated: Hygienic Soap Granulator Company, Jersey City, N. J. Capital, $125,000. Incorporators, W. N. Akers, H. O. Coughlan, Louis B. Dailey.

A petition in bankruptcy has been filed against the Gibson Soap Works, of Kingston, N. Y., by the following named creditors: J. Alfred Kiersted, $9; Jacob P. Van Keuren, $13, and Harry H. Kutner, $600. It was alleged the corporation is insolvent, and that on Wednesday last insolvency was admitted. Judge Holt of the United States District Court appointed Du Bois G. Atkins receiver. The liabilities are more than $2,000 and the assets consist of materials, machinery, etc., $2,000, and accounts, $400.

The Lex-Em-All Soap Company had its articles of incorporation recorded in Newark, N. J. As indicated in the title the concern will manufacture and deal in soap. There is a capital stock of $30,000 and $1,000 is paid up by Charles W. Perry, Samuel J. Matthews and Glenn R. Carver, the incorporators.

Additions to Our Brand List.

Le Fameux 16
Le Famenx Rose de Seville 16
Le Fameux Violette de Sevill 16
Le Fameux Peau d'Espagne 16
Le Fameux Jockey Club 16
Sayf-Syde, Sayf-Syde Soap Co., Cincinnati.
Wego 96
Hy-Lo 96
Royal Lily 16
Rose Immortelle 334
Violette Grandfleur 334
Heliotrope Ideal 334
Baby Mine 8
Crown Princess 337
Naptholive 340
Natural Gas 340
Peace 340
Ox Oil 340
Mox-Nix 340
Beef Oil 340
Sentry 340
Uncle Sam's Floating 120
Solos Laundry, Nelson Mfg.Co., Iowa City, Iowa.
Safeguard Carbo c 53
World's Work 53.
Marvelo, National Process Co., Rochester, N. Y.
Bell's Naphtha 343
Little Sweetheart 346
KaskaBouquet 346
Crystal Honey 346
May Field Bouquet 346
Elk's Bouquet 346
Milkina Skin 346
Old English Brown Windsor 346
Glycerated Tar 346
Amber Rose 346
Coa Nut 346
Beaumont's Shaving 346
Zo-Zo White Tar 346
Atoka 346
Red Raven 346
White Wonder 346

SUPPLEMENTARY LIST
OF THE
BRANDS OF SOAP MANUFACTURED IN THE UNITED STATES
Including also the Brands of Foreign Manufacture Registered as Trade-Marks in this Country.

NOTE: This list is compiled with the greatest possible care, but the publisher does not assume any responsibility other than to correct and to complete the list according to data obtained from official sources or furnished by the trade. Brands registered in the patent office as trade-marks or labels are given with the name of the party registering same. Brands or names marked * are those which were found to be used by more than one firm or the owner of which could not be ascertained. ☞ SEE THAT ALL YOUR BRANDS ARE ENTERED IN YOUR NAME.

344 Home Soap Co.. N.Y.
345 Colnmbia Ref'g. & M'f'g Co. Ltd., New Orleans.

Abrado, Floridine Mfg. Co., New York.
A Happy Home 4
Amazon Coco 337
Angelns 54
Antillia 2
Anty Up 340
Apple Blossom 337

Beauty Belle 115
Bell's Brown 343
Billy-Goat 340
Blue Chip 340
Blue C oud 2
Blue Coco 340
Blue Family 340
Blue Monday 340
Blue Olive 340

Calcutta Castile 337
Chlorine 340
Cleaneasy 286
Climax Chip 54
Cloth Pin 340
Cloths Pin 340
Credential Shaving Stick 16

Dactylis 11
Dermicura 327
Durango Best, Dnrango(Colo.) Soap Co.

Empress Eugenie 115
Empire Geranium 337
Eucryl Eucryl Ltd., Hull, England.
Evergreen 286

Facine 340
Fairbank's Primrose 2
" Scouring 2
" German Fam. 2
" Glycerine-Tar 2
" Mottled Germ'n
" Olive 2
" Navy Blue 2
Federal Family 1
Floral Feast 115
Flannel 2
Flip 345
Force, Cincinnati Soap Co., Cincinnati, Ohio.
Fragrant Honey 2
Frog 340

Gem Wash. Compound, Clara Pearce, Philadelphia.
Georgia Oleine 29
Geyser 343
Gloriola 29
Gold Seal Soap Flour 340
Goodhair, Goodhair Remedy Co., Newark, Ohio.
Green Olive Chip 340
Green Palm 340
Green Seal Chip 340
Gusher 340

Hard Maple 155
Helix 54
Hi Lo 96
Horse Oil Harness 340

Idyllwild 54
Ilo-Ilo 340
Iroquois Maiden 115

Jack & Jill 340
Jack Pot 340
Jewel 2

Kazan 343
Kimola, Bell Mg. Co., St. Louis, Mo.
King Solomon's Rock Oil S. Mnross Jenkins, N. Y.

Lakeside (Scouring) 2
La Mariposa 54
Lasco Napthol 54
Last Long 286.
La Virtho, John S. Nichols, New York.
Lemola Toilet, Lemola Soap Co., Los Angeles, Cal.
Lemolive 54
Lemonine, E. H. Kraut, Cincinnati.
Limberine, E. A. Warren, St. Paul, Minn.
Lion 2
Long Shot 345

Madeira 16
Madeira Almond Cream 16
Madeira Cucumber Cream 16
Madeira Lettuce Cream 16
Madeira Olive Cream 16
Marjorie 337
Marveline 300
Maxine Elliott 337
Mentholatum Corn Oil S. 169
Mexicano 54
Michigan Family 2
Mildred 337

Naphtha Toilet 340
Naphthal 340
Napthol 340
Next-To. Phoenix Chem'l Co. New York.
Nolahor 340
Noxlabor 340
Noxwork 340

Orinoco 337
Orris Unscented 337
Otis Lightning, C. H. Waterhouse, Essex, Conn.
Oxolive 340
Oxigen 340

Palmo 340
Palm Oil S. Powder 340
Palm Soap Flour 340
Parisian Toilet 54
Passion Rose 298
" Violet 298
" Pink 298
" Lily 298
Peach Blue 340
Peerless Country Club 337
Peerless Forest Violet 337
Peerless Lily of the Valley 337
Peerless New Mown Hay 337
Pen Yen 340
Perfecto 121
Plantol Lever Bros., Limited Port Sunlight, England.
Pony Up 340
Premium, Davenport (Iowa) Soap Co.
Premium W. Powder, Davenport (Iowa) Soap Co.
Preventionette, Willard Chemical Co., Malden, Mass.

Quick and Easy 56

Rex Cremo 340
Rex Family 340
Rex Liquid Soap 340
Rexolene 340
Rexolive 340
Rockford Scouring 2
Rnbbo, Lever Bros., Limited, England.

Sani-Tari Skin, Citizens Wholesale Snpply Co., Columhus, O.
Santa Rex Castile 2
Savon Carnation 337
Savon Heliotrope 337
Savon Lilac 337
Savon Queen Regent 337
Savon Quo Vadis 337
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The AMERICAN SOAP JOURNAL AND MANUFACTURING CHEMIST is devoted to the interests of all manufacturing industries of a chemical character, and is an absolutely independent publication. It is the only newspaper of its kind in America and has also a large foreign circulation.

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A stranger writes us: "I am thinking of going into manufacturing soap, but without capital or experience Please send a sample copy of your AMERICAN SOAP JOURNAL, and also any other helps you may have for free distribution."

We have sent the sample copy, and all our correspondent still needs now is capital. Having none of the latter left "for free distribution," perhaps some of our readers will help this modest stranger.

The following is self-explanatory:

Dr. H. Gathmann: To correct false reports arising from a fire in our neighborhood, we wish to state that we have NOT had any fire—except under our boilers—nor have we suffered any damage or interruption.—The Holbrook Mfg. Co., New York.

Another correspondent writes:

AMERICAN SOAP JOURNAL.

Dear Sirs: We should be very much obliged if you could inform us the manufacturers of "Copeo" soap. We have an order for these goods, and up to the present moment have been unable to locate the suppliers of same. Awaiting your reply, etc., etc.

[The manufacturers of "Copco" soap have this and their other brands listed with us, and so we readily supplied the desired information. A word to the wise is sufficient.]

Still another letter has this concluding sentence:

"Next to an advance in soap we are of the opinion that we need your JOURNAL about as bad as anything in the business."

Now, that's nice, and what is more, it is about true.

Again we are being called upon to record the deaths, within one month, of several men long and prominently known in the industries closely allied with the interests represented by this JOURNAL.

Geo. W. Goudy, well known to probably a majority of our readers, was the first to be called away. The main details of his life are given on another page of this paper. On the same day there died Capt. John B. Ford, generally spoken of as the father of the American plate glass industry, and also a pioneer in the alkali manufacture in this country. Lastly there died Frederick

Rawolle of the firm of Marx & Rawolle, glycerine refiners.

Mr. Goudy was 85 years old; Capt. Ford reached the great number of 91 years, while Mr. Rawolle was at the comparatively young age of only 61 when he died. All had long been conspicuous figures in their respective fields.

Adding to these the deaths recently recorded of such men as Messrs. Swift, Fairbank and Johnson, it is painfully evident that the personal of the trade is rapidly undergoing great changes.

The American Product Company has a reduction plant at Morris Street Wharf, on the Schuykill River, where 270,333 tons, or 558, 660,000 pounds of garbage were turned into products last year. At a certain stage the mass passes through powerful presses where the oils are pressed out. After the water settles in big tanks the black grease which floats upon the surface—and which looks like thick molasses—is taken off and barreled.

The National Provisioner comments on this by saying:

"This stuff is shipped to Germany, where it is said to go into soap. There are traditions which tend to contradict this in part, but the Germans need not get squeamish if their own folks treat this second-hand grease and turn a percentage of it back into the edible field for consumption."

Although we naturally do not pay so much attention to food products as does our contemporary, we nevertheless know very well that grease from which Americans cannot make soap even, no other nations can turn into edible fat. It may be good policy to keep German food products out of this country, so long as Germany objects to our meats and sends us adulterated wines in plenty. But policy does not alter facts.

From a lecture by Prof E. V. Howell we learn that the right of property in a trade-mark, and the right to protect the same by injunction, were affirmed in England by Lord Mansfield as early as in the year 1782. There were no cases involving trade-marks in the United States before 1825. A general policy of protecting a good will and a trade name was then recognized. At this time, however, the court refused to protect Thompson in the use of the word "Thompsonian" to designate his remedies on the ground that they were not patented and the term was generic. Again, in 1847, it was held that "Wichar's Balsam of Wild Cherry" was a quack medicine, and refused protection because its ingredients and their action were not made known, and because of the incongruous list of diseases for which it was recommended.

The first injunction was by Judge Story in 1844, in favor of the manufacturers of "Taylor's Persian Thread"—whose owners were Englishmen—when their rights in their trade-mark and name were infringed. This was the precedent followed afterward, by England and Germany, for affording the same protection to foreign friends as to citizens.

At first the laws were simple, but increased trade and multiplicity of trade-marks soon created a perfect network of doctrines involving countless numbers of cases. The policy of the courts (just as with the patent laws) was at first on narrow and technical lines. To keep pace with the world's progressive stride, the question seems to have been shorn of these narrow and technical interpretations and to outline simply an equitable protection in order to promote fair trade. When in olden times people bought direct from the manufacturer, there was not so much need for protection. In our time, when we purchase from the second, third or fourth hand, when drummers and advertising are relied on so largely for selling, when whole fortunes are wrapped up in some apparently insignificant device, monogram or trade-mark names, we see the greater need for protection and the greater temptation for the unscrupulous imitator to prey on others' reputations.

The property right in trade-marks has been reinforced also by recognition in legislative action. To forge or counterfeit a trade-mark was made a misdemeanor in England in 1862. Laws for registering trade-marks became necessary to protect the public and those owning and applying for them. We passed this law in 1870. England followed our example in 1875. Our law was later declared unconstitutional because it was not within the limits of the power granted to Congress. It was thought to have had the power from the constitutional right to legislate in regard to copyrights and patents. The difference will be seen by the definition of the latter: "A new and useful discovery, the product of the action of the human mind," etc. Trade-marks are not necessarily new, and are frequently merely fanciful or arbitrary devices. In this trouble the Supreme Court suggested a remedy, that Congress might have the power to establish a law for trade-marks under the commerce clause of the Constitution, provided the goods were articles of trade, first, between States, or, second, between foreign nations, or, third, between the Indian tribes; and we have these laws and regulations. Notice that the inter-state commerce, as suggested, was not embraced in this law, although it seems constitutional and desirable.

(Here follows copy of the law passed by Congress, entitled, "An Act to Authorize the Registration of Trade-marks and Protect the Same.")

This law is not altogether satisfactory, and is relied on chiefly to show that such a trade-mark has been se-

lected and used. State trade-mark laws as passed by the different states vary to such a degree that very little benefit has been derived, and our national law is not so severe as those of many foreign countries.

In printing, on another page, some particulars concerning a prosecution for alleged adulteration in the manufacture of lemon extract, we have several objects in view.

It may seem to many readers that manufacturers of soap are not interested in lemon extract, but these same readers might possibly be much surprised to learn how many manufacturers there really are who make both soaps and flavoring extracts (besides perfumes, or baking powders, or polishes, or patent medicines, or what not). So then, we shall interest quite a few readers very directly.

Moreover, the principles involved in this case are important to every manufacturer of articles for daily household use, whether that be perfumes, soap, or some food material.

Lastly, the peculiar vagaries of the law which one may expect to encounter in almost any suit are so typically shown in the two "opinions" which constitute our article in this paper, that (to our mind at least) their perusal is as good as going to a comic opera. On this hypothesis, this one article alone is worth fully a year's subscription to this paper, even if you are not a manufacturer of flavoring extracts. Note, for instance, the opinion of the Supreme Court of Michigan to the effect that "the instruction of the learned Circuit Judge was erreneous"—if you don't see any fun in that, get your money back at the ticket office.

A Question Answered.

NEW YORK, May 14th, 1903.

Dr. Henry Gathmann.

DEAR SIR: I happened to read your subscriber's question as to the recovering of oil from waste liquors in woolen mills, laundries, etc.

Speaking of the spent liquors in wool washings, a brown oil or grease is being recovered in a number of American establishments at a cost of two cents per pound, ready barreled for shipping, and selling at about two and one-half cents per pound.

We consume in the United States about 50,000 barrels of this kind of grease, 6,000 barrels of which are of home production, 44,000 barrels come from England, Germany and Belgium, and on which the government levies an import duty of one-half cent per pound. This is a differential duty only, comprising the difference in cost of production between the United States and Europe.

It would not pay to reclaim the grease from soap suds in laundries, though having a higher sales value; but it pays to reclaim the oil from cloth scouring and fulling liquors and to make one's own scouring and fulling soap, by using such recovered oils, wholly or in part, as soap stock.

The European establishments are compelled, by sanitary ordinances, to purify the waste liquors, before discharging the same into streams or rivers.

Our communities, however, do not enforce similar ordinances existing, except in a few cases.

The writer approached the manufacturers of a large American woolen mill center, some fifteen years ago, proving by tests made that they are running off as much as $10,000 worth of marketable grease, in single mills, and to which he received the following answer:

"We are not grease makers, but woolen manufacturers."

Conditions have changed somewhat since, but will not come to a common sense basis until our import duties have been adjusted from a class protection into a differential tariff. Yours truly,

ALEX. P. MENDE.

Profits On Soap.

My Dear Mr. Gathmann.

I desire to offer a few words openly to that general merchandise dealer down South, mentioned in your SOAP JOURNAL for May. Extract what you like from the enclosure or use it as you please. You are well aware that I speak not only from a manufacturer's point of view, but also as a dealer. Yours,

[ENCLOSURE.]

No legitimate manufacturer desires his goods retailed at cost or at so small a profit that the dealers, like your correspondent, must look for something "as good but cheaper in first cost," and then throw out the better goods. The unprofitableness of soap manufacturing is due largely to the cutting of prices by the dealer; I never fully understood this until I got into the retail business and sank my little all in trying to get a legitimate profit on goods which those around me were selling at cost, below cost, or on the small margin or 3 to 5 per cent.

No manufacturer can control the selling price of his goods by a dealer. I know positively where a can of certain goods is sold at retail at price at which it cannot be bought from the manufacturer in 500 case lots, and the man who wants to make a profit on it can keep his goods on the shelf. There must come a radical change in the conduct of business, and no more so South than North.

Your correspondent will have to sell good goods, put up by the best people, and he must make a profit him-

self. The sooner he decides that all goods must bring him 25 per cent. profit (not on cost, but gross profit), the sooner he will be doing good to himself, to the legitimate manufacturer and to his neighbor. Your correspondent's people are going to have Octagon soap even at 5 cents a cake, and that is what it was intended to sell for—not 6 for 25 cents.

Patriotic Soap Manufacturers.

BY GEO. A. SCHMIDT, CHICAGO.

On April 19th, 1903, at Faneuil Hall in Boston, they celebrated Patriots' Day (the celebration proper was held the next day, the 20th), by a meeting, the like of which ought to be observed in every city and village in the United States, and not only annually, as they contemplate doing it in Boston, but as often as practicable. The Honorables, Lieutenant-Governor of Massachusetts, the Mayor of Boston, Rabbi Fleischer, Rev. Johnson and others spoke on the subject, "How Can We Get Better Citizens." (One of our old-time customers, whom the writer visited, pointed out the famous hall as a good place to spend Sunday afternoon.) Especially one idea, expressed there in different forms, deeply impressed itself on the writer's mind; it was thus: "Not soldiers and statesmen render most valuable service to this country, but any of you, who in his shop finds new and improved processes and methods *and makes them known so they can be utilized to the benefit of the country,* is a patriotic citizen, etc., etc.

"What has this to do with the soap manufacturers?" may be asked by the reader, but hardly by those who have read and thought over former essays of mine. It pleased me greatly to hear that prominent men held the same views as I have advanced for many years, when I urged soap manufacturers to come out with their ideas, to air them in this JOURNAL, in a similar manner as I have done. While listening to the speeches, I made up my mind to publish what I regard as one of the most important improvements in modern soap making, as a solution of the problem, "How does soap act in washing," as the "missing link" in the chain of evidence. Simple as the result may seem, yet I had to spend many years in researches before I was able to affirm my supposition.

It was in the seventies when Mr. J. B. Williams of Glastonbury, Conn., the well-known shaving soap manufacturer, visited by humble shop, then at 5 Stone St. (now the most fashionable residence portion of Chicago), and found me busy experimenting with shaving soap lather. He spoke kind, encouraging words, said, as it took him twelve years of hard work to perfect his soap, I should not be discouraged, but keep on improving. (I preserve to this day the address of Rutschmann Bros. of Philadelphia, written down for me by Mr. Williams, as a remembrance of a visit of the gentleman.) I replied, however, that my ambition lay in the opposite direction from his own. He advertised the excellence of his soap, (and so do others) by a brush-full or a mug-full of lather already made; this is all wrong. It is the act of making the lather which aids greatly in all cleaning and disinfecting methods by the assistance of soap. Observation has taught long ago (at least refined, intelligent users of soap) that those kinds which were slow in lathering, were more satisfactory as purifiers. This was explained by the fact that such soaps are also slower in decomposing, in setting free the alkali, but no well-informed soap chemist believes in that old hypothesis as if the alkali so set free, was the cleansing agent. The truth is that *quick lathering soaps do not penetrate.* The writer has made a specialty of barbers' soap ever since he became old enough to think independently, and finds that *the act of lathering a face, preparatory to shaving,* is one of the most interesting lessons to soap makers. On the wrapper around the first shaving soap put on the market under the name "Chicago Shaving Soap," I call attention to the fact that it is a mistake to put on the face lather already made in the cup, as that will plaster *down* the hair while it ought to be lifted *up.* It is the same with dirt, especially in the skin, where we cannot rinse or force it through as in fabrics; when a thin soap solution is applied it penetrates, kneading, massaging and washing transforms this solution into millions of tiny soap bubbles *which lift up and out* the dirt, etc. This is the *principle* upon which soap lather works. It is unworthy of progressive American soap manufacturers to recommend the human skin (which permits treatments for removing from the depressions, pores, etc., *from one side only*) to be purified in the same manner as we do clothing. Soaps fit for the latter will do but very imperfect work on the former.

If we picture to ourselves the skin thousands of times enlarged, we can understand how thin soap solutions penetrate into the furrows by *mechanical* aids. The soap solution, while forming minute air bubbles, works from beneath and forces up and out what ought to be removed.

For toilet purposes our aim should be to produce soaps which make thin solutions at first and require the proper amount of mechanical help (of kneading, rubbing, massaging, etc.,) to develop slowly into a lather. Results prove this to be the correct principle.

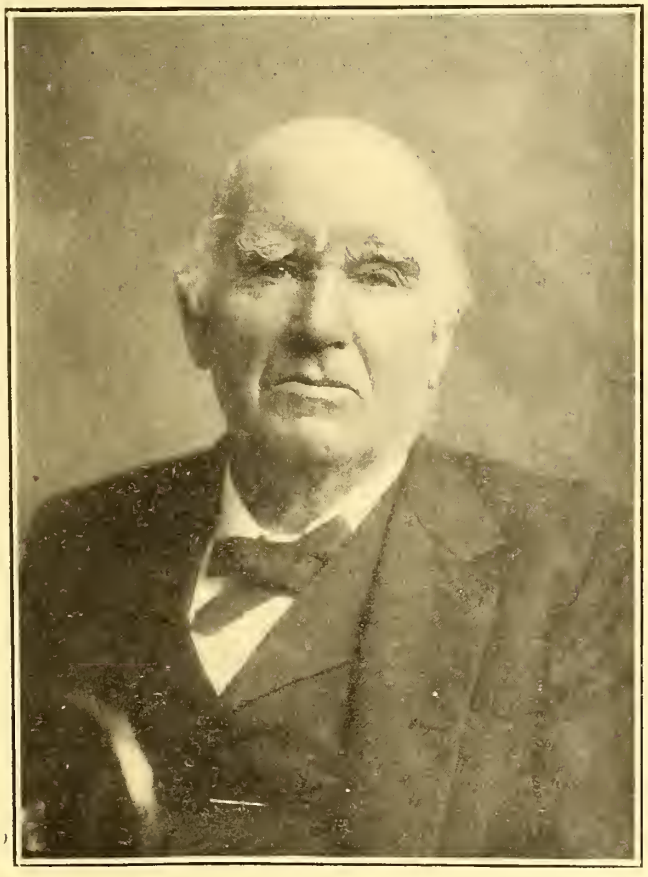
Criticizing essays like this, contradicting statements made, giving reasons why this is not so—is what makes this JOURNAL interesting and helps to make its readers better informed, therefore more useful citizens. So let us hope we shall see quite a number of essays on the subject in the next issue.

CHARLES W. GOUDY.

Born September 24th, 1818.
Died May 1st, 1903.

Charles W. Goudy, for many years traveling representative of the Philadelphia Quartz Co., died suddenly of heart disease on May 1st, at his home in Haddonfield, N. J.

He was born in Liverpool, England, September 24th, 1818, attended Friend's School, and at the age of fourteen took service with a Clyde River shipbuilding concern, going through the various departments for nearly seven years, when he became associated with his father, a manufacturer of soap, soda ash, bleaching powder and other chemicals; until 1852, the ground on which the works stood being required for railway purposes, the business was discontinued. Desiring a further experience in the manufacture of chemicals, he held positions as manager of chemical works at Lancaster, Warrington and Birkenhead for several years, when in 1860 he went into the manufacture of oils from coal, establishing a crude works at Wiggen and refinery at Crook; the business being very successful, he greatly extended his plant, but in 1868 the principal portion was destroyed by fire, and, influenced by a desire for a climate more suitable to the health of his wife than that of England, he, in 1869, came to this country, locating in Marshalltown, Ia., and later Nevada, Ia., where he engaged in the manufacture of soap and lard oil. In 1876 he became traveling representative for the Philadelphia Quartz Co., which position he actively fulfilled till over eighty years of age, being perhaps the oldest traveling man known to the trade.



His wife, one son and two daughters survive.

The son, George W. Goudy, has for several years assisted his father, gradually taking up the duties which time forced Charles W. Goudy to relinquish.

During the earlier days of the SOAP JOURNAL Mr. Goudy was still traveling considerably, and often took occasion to call at our office, where his coming was always a pleasant surprise. He had a good word for everybody and was always uniformly cheerful. In later years we regretfully missed these calls, but Mr. Goudy always remained a good friend of this paper and a constant reader.

The Law On Lemon Extract.

In the prosecution instituted by the Pure Food Inspector against Charles W. Jennings, the Muskegon Circuit Court has decided that the extract of lemon as prepared and labeled by the Jennings Flavoring Extract Co. violates the pure food law of the state.

The real issue in the case is a very simple one: The United States Pharmacopoeia, which is a collection of formulae prepared for the use of druggists, contains a recipe for making spirits of lemon by dissolving lemon oil in alcohol. The statutes of this state do not define lemon extract, nor do they direct that the Pharmacopoeia formula shall apply to food preparations. The Food Commissioner contends that a lemon extract is necessarily a spirit of lemon and that the Pharmacopoeia formula for making spirits of lemon must be followed in making lemon extract. Lemon oil contains a large amount of terpenes, so-called, which, after standing, give the lemon extract a bitter, disagreeable and "turpentiny" taste. To remove this trouble many leading manufacturers have for several years made lemon extracts by eliminating the terpenes, retaining nothing but the flavoring substance of the oil. Terpineless extracts are in demand as being better and as preserving more distinctly the lemon flavor than when made according to the Pharmocopoeia formula. The purity of these extracts and their superiority over the Pharmacopoeia process are substantiated by the testimony of the most prominent experts upon the subject.

Dr. Kremers, Professor of Pharmaceutical Chemistry in the Wisconsin State University, highly educated both in this country and in Germany, the managing editor of the Pharmaceutical Review, published in Milwaukee, a writer of authority upon essential oils and the author of the Pharmacopoeial articles on that subject, testified that the Pharmacopoeia formula for spirits of lemon had no necessary relation to extract of lemon for food purposes; that the Pharmacopoeia formula for spirits of lemon was retained not on account of its superiority over other processes, but because it was so simple that any druggist could use it; that terpeneless extracts were in demand and were considered superior as being free from the bitter and disagreeable taste of the terpines.

Dr. Vaughan, Professor of Pharmaceutical Chemistry in the University of Michigan, and probably the foremost expert upon food products in the United States, testified to his analysis of Mr. Jennings' extract; that it contains the complete flavoring principle of the lemon oil, and that it is in every way superior, both for medicinal and pharmaceutical purposes, as well as for food flavors, to the Pharmacopoeial spirits of lemon. He declared that so great is the superiority of the terpeneless lemon extract for all these purposes that there is no room for comparison between the two products.

These propositions were absolutely undisputed. The Circuit Judge held, in effect, that lemon extract for food purposes must contain all the elements of the Pharmacopoeial product, thus including the terpenes, without regard to their actual desirability or usefulness, unless the manufacturer should choose to label the extract as a compound.

No claim was made by the Food Department that terpeneless extract, either in the coloring employed, or otherwise, contains anything harmful. On the contrary, it was expressly admitted by the chemist of the Food Department that terpeneless extract contains no injurious ingredient. The real questions are thus those of science and of law. The public is not only not injured, but is actually benefited by the method of manufacture employed by Mr. Jennings.

An appeal will be taken to the Supreme Court from the decision of the Muskegon court. Should the decision of the latter court be sustained, the manufacture of the extract according to the improved and scientific method would not be prevented. The public demands a terpeneless extract and, under appropriate labels, such extract can, in any event, be sold.

[Later.] The Supreme Court of Michigan, on April 7th last, rendered its decision in this case as follows:

This is a prosecution under the Pure Food Law, so-called. The defendant was convicted under an information charging him with selling a compound as a lemon extract which was adulterated within the meaning of Oct. No. 193, P. A. 1895, and was a compound in imitation of extract of lemon. The respondent was convicted and brings the case up on exceptions before sentence.

The evidence on the trial introduced by the defendant tended to show that lemon oil contains from 3 to 10 per cent| of so-called turpenes; that these turpenes represent the oil property; that they are in reality the oil itself freed from the citral; that citral is the principal flavoring and odor-bearing property of lemon oil; that the tendency of turpenes in the oil of lemon is to deteriorate or become rancid by long standing, and that because of this the extract of spirits of lemon in which turpenes appear in usual quantities becomes turpentiney, both in smell and taste, and that for this reason it is undesirable to have turpenes present; that the turpenes have a biting taste, easily developing a turpentine taste, not the true flavor of the lemon fruit. There was also testimony tending to show that this fact created a demand for turpeneless oils and that turpeneless lemon oils had been manufactured and sold commercially for a considerable time.

On the part of the prosecution the testimony of the chemist of the Food Department was to the effect that taking as a standard of extract of lemon the spirits of lemon as defined by the United States Pharamocopoeia

formula that the extract produced by the respondent showed no lemon oil present. It further appears that spirits of lemon made according to the Pharmacopoeia formula would contain from 25-100 to 35-100 of 1 per cent. of citral. It also appeared that 30 per cent. of alcohol appeared in the product made by respondent, and that according to the Pharmocopoeia formula 80 per cent. was used. It was also shown that a trace of coal tar dye was found in the extract made by respondent, but it was conceded that there was nothing whatever injurious in the extract as prepared by Mr. Jennings. The extract sold by respondent was made by what is known as the shaking-out process, the purpose being to make an extract that contains no oil and as little alcohol as possible, a product that simply contains the flavoring properties of the lemon oil without the turpenes. This system has been employed by Mr. Jennings and by other manufacturers for the past three years; and it is claimed that all the elements and properties of lemon oil remained except the turpenes, and the testimony tended to show that the complete flavoring qualities are extracted by this process.

The Circuit Judge charged the jury as follows:

(Here follows the Circuit Judge's charge quoted, and which is omitted herefrom.)

We think this charge presents fairly three questions for consideration: First, whether the Pharmacopoeia formula is to be considered as defining lemon extract; second, if so, whether an omission of ingredients not essential to its purposes as a food product is a violation of the statute; third, whether the instruction relative to the addition of coloring matter should be sustained.

The statute defining what shall be deemed adulteration, so far as it relates to this case, declares that an article shall be deemed adulterated when, "First, if any substance or substances have been mixed with it, so as to lower or depreciate or injuriously affect its quality, strength or purity; second, if any inferior or cheaper substance or substances have been substituted wholly or in part for it; third, if any valuable or necessary constituent or ingredient has been wholly or in part abstracted from it; fourth, if it is an imitation of, or is sold under the name of another article; * * * sixth, if it is colored, coated, polished or powdered whereby damage or inferiority is concealed, or if by any means it is made to appear better or of greater value than it really is; seventh, if it contains any added substance or ingredient which is poisonous or injurious to health." Compiled Laws, Sec. 5012.

We are agreed with the Circuit Judge that in referring to articles of food and to protect the users thereof the Legislature must have had in view some standard, and as lemon essence or lemon extract had theretofore acquired a well defined meaning we incline to the view that it is proper to resort to the Pharmacopoeia formula for the purpose of determining what lemon extract consists of. Does it follow from this that the Legislature intended to prohibit improvement in the manufacture of lemon extract? If a means should be discovered by which a larger percentage of the flavoring quantity of the lemon might be extracted would it be an infraction of this law that the manufacturer should use such larger proportion of the essential ingredient of the lemon extract? We think not. We think it is open to manufacturers to improve a common article of food so long as no infringement of the law or spirit of the act defining what shall be deemed adulteration takes place. According to the proofs offered by the defendant it is very clear in the present case no substance or substances have been mixed with this extract so as to lower or depreciate or injuriously affect its quality, strength or purity.

As to the second condition which amounts to adulteration the case is not so clear. This provides that if any inferior or cheaper substance or substances have been substituted wholly or in part for it, that it shall amount to adulteration. We think, however, this provision should be read in connection with the succeeding one, to-wit: "If any valuable or necessary constituent or ingredient has been wholly or in part abstracted from it." So construed the provision prohibiting the substitution of any inferior or cheaper substance, wholly or in part, for it means the substitution for an essential ingredient of such cheaper or inferior substance. Now if it be a fact, as the testimony on the part of the respondent tends to show, that it is a positive advantage to exclude the turpene wholly from the extract and to lessen the quantity of alcohol used, then the essential ingredients of lemon extract have not had substituted for them anything inferior or cheaper. We are aware that this view of the law may make it more difficult to establish the individual case, but as the statute is a penal statute it should receive a strict construction.

It follows from the views above expressed that the instruction of the learned Circuit Judge was erroneous inasmuch as the jury were told in effect that if any ingredients of lemon essence as defined by the Pharmacopoeia was wanting in this extract sold by the respondent that there should be a conviction. We think the instruction should have been that if the lemon extract sold by respondent contained all the ingredients and in quantities such as prescribed by the Pharmacopoeia which are adapted to use as food, and that nothing was eliminated except such ingredients as could be dispensed with without injury to the product as a food product there was no violation of the statute.

The only other provision of the statute involved is the sixth, which in effect prohibits coloring the article produced whereby damage or inferiority is concealed.

The instruction upon this branch of the law was also erroneous if we are correct in our view of the main question. The elimination of non-essential ingredients from the extract certainly does not show damage or inferiority, and as the conceded facts are that the coloring matter employed was not injurious to health in any way this provision has no application.

The other questions discussed do not require special mention. It may be noted in passing that the Circuit Judge in referring to the testimony of expert witnesses spoke of it as boughten testimony. We think this expression was unfortunate. While it is proper for the jury to take into account the fact that expert witnesses are employed at an extra compensation paid them the implication that the extra compensation neeessarily amounts to a purchase of their testimony is hardly warranted; while the jury may consider this fact as bearing on their credibility, it is not proper that the court should intimate an opinion of that character.

The judgment should be reversed, and a new trial ordered.

The other justiees concurred.

Our Exports.

The exports of soap, perfumery and toilet goods from the port of New York for one recent week were as follows:

Argentine Republic—302 cases soap, $4,880; 1 box toilet goods, $55; 1 case perfumery, $68.

Bristol—85 bbls. soap, $840.

British West Indies—562 packages soap, $1,264.

British East Indies—52 packages perfumery, $2,714; 27 packages soap, $1,195.

British Australia—56 packages soap, $6,080.

British Guiana—3 packages soap, $33.

Brazil—18 packages perfumery, $651; 18 packages soap, $431.

British Possessions in Africa—2 cases perfumery, $62.

Colombia—1,271 packages soap, $2,115; 1 package perfumery, $15

Christiania—4 packages soap, $15.

Copenhagen—6 packages perfumery, $52.

Central America—1 package perfumery, $33; 5 packages soap, $16.

Chili—4 packages perfumery, $60.

China—34 packages perfumery, $5,074; 19 packages soap, $735.

Cuba—2 packages toilet goods, $85; 42 packages perfumery, $813; 36 packages soap, $208.

Danish West Indies—2 packages perfumery, $52.

Dutch West Indies—14 packages perfumery, $101.

Ecuador—4 packages soap, $36.

Fiume—6 packages soap, $20.

Glasgow—2,000 boxes soap powder, $5,000.

Havre—143 barrels soap, $873.

Hamburg—3 packages soap, $38.

Hong Kong—1 package soap, $35.

Hayti—487 packages soap, $2,143.

Japan—34 packages soap, $938; 102 packages perfumery, $283.

Liverpool—140 packages soap stock, $900.

London—18 packages perfumery, $475; 1,428 packages soap, $716.

Mexico—30 packages soap, $716; 2 cases perfumery, $22.

Newfoundland—32 packages soap, $1,447.

Philippines—1 package soap, $20.

Turkey in Asia—5 packages soap, $238.

Uruguay—15 packages soap, $54.

Venezuela—16 packages perfumery, $552; 252 packages soap, $695.

Trade Marks In Cuba.

The law of trade marks of the island of Cuba is con contained in the royal decree of August 2, 1884, which has undergone certain modifications made by circulars of the revision of Customs and Insular Affairs of the War Department and by civil orders issued by the military government of the island of Cuba.

Circular No. 12 of the Division of Customs and Insular Affairs, dated April 11, 1899, which is applicable to both patents and trade marks, provides protection for American patents and trade marks upon filing a duly certified copy of the patent or of the certificate of registration of the trade mark, print, or label, in the office of the Governor-General of the island. Provision is also made for the protection of rights of property in patents and trade marks secured under the Spanish laws.

Circular 21 of the Division of Customs and Insular Affairs, dated June 1, 1899, provides that the fee for filing the certified copies mentioned in Circular No. 12 shall be $1, and that as to patents, the only certification required is that issued by the United States Commissioner of Patents.

On September 25, 1899, Circular No. 34 was issued by the Division of Customs and Insular Affairs, applicable to both patents and trade marks, rescinding so much of Circular No. 21 as required the payment of a fee for filing certified copies of patents of certificates of registration of trade mark, prints, or labels.

A paragraph is added to Circular No. 21 requiring a power of attorney from the owner of the patent or trade mark authorizing another for him, and in his place, to file a certified copy of the patent or certification of the trade mark, print, or label, to be filed with such certified copy or certificate of registration. It is further

provided that assignments of patents, trade marks, prints, or labels, or certified copies thereof, shall be filed in the same manner.

By a subsequent circular, No. 38, of the Division of Customs and Insular Affairs, dated March 9, 1900, so much of Circular No. 34 of said division as related to fees was rescinded, thereby restoring the registration fee of $1 provided for by Circular No. 21, in relation to American patents and trade marks.

Upon this question of registration fees for American patents and trade marks the Secretary of Agriculture, Commerce and Industries, under date of June 21, 1902, issued a circular order which was published in the Gaceta de la Habana, on June 23, 1902, wherein it is recited that:

"The military government of the United States in this island having ceased, by virtue whereof and in accordance with the expressed text thereof, Circulars Nos. 12 and 21, dated, respectively, April 11 and June 1, 1899, issued by the Division of Customs and Insular Affairs of the War Department at Washington, concerning the registration of American trade marks and patents have become without value and effect, inasmuch as said circulars were issued for the territories subject to military forces of the United States, I have resolved that patents and marks of all kinds, prints, labels and tickets, duly registered in the Patent Office of the United States, whose filing in this island may be requested for their protection in future, shall from the present date be recorded in the bureau under my charge in proper case, upon complying with the procedure followed for registration from other countries, and the payment of $35 currency for patents, and $12.50 currency for marks, prints, etc.—that is to say, the same fees which are paid by all others, foreign or national, in place of $1 currency, which is provided for in said Circular No. 21, regarding the American."

Civil Order No. 160, series 1901, issued under instructions of the Secretary of War, provides for the protection of patents, copyrights, trade marks, prints, or labels, the rights to which are secured by proper filing under the United States law, upon filing with the Governor of the island where protection is desired a certified copy of the patents, copyright, or certicate of registration.

In an unpublished communication, dated August 12, 1902, addressed to the Secretary of State and Government by the Secretary of Agriculture, Commerce and Industries, a ruling is contained to the effect that "Civil Order No. 160, series 1901, June 13, 1901, has not been revoked and that American trade marks which have been registered in pursuance of Circulars 12 and 31 of the Division of Customs and Insular Affairs are fully protected without the necessity of any further formality, and that the circular published in the Gazette on June 23, 1902, has had for its object the equalization of procedure followed in this island for the filing and patents in accordance with the international treaty of 1883, and that, upon the expiration of the term of protection granted to marks, etc., registered under Circulars 12 and 21, above mentioned, the Department reserves the right to take the proper steps. This will be the subject of a law."

At this point it seems proper to invite attention to Civil Order No. 148, series 1902, whereby "each and every of the laws, decrees and regulations, orders and other rulings made and promulgated by and under the military government of Cuba shall be deemed to be general and continuing in character, and to be applicable to and binding upon all officers of the Government of Cuba, under whatsoever names or titles, who shall succeed the officers of the military government, and to continue in force and effect, under whatsoever government may exist in Cuba, until such time as it may be legally revoked or amended, pursuant to the terms of the constitution aforesaid."

Article 10 of royal decree of August 21, 1884, has been amended by Civil Order No. 105, series 1901, so as to read as follows:

"The certificate of ownership of any mark, design or industrial pattern can only be obtained, for the purpose of this decree, by manufacturers, merchants, agriculturists, or by persons engaged in any other industry, whether they be Cubans or foreigners established in Cuba, and also by companies composed of any such persons."

Article 12 of said royal decree of August 21, 1884, has been amended by Civil Order 512, series 1901, dated December 19, 1900, by adding to paragraph 1 of said article the following:

"Those who buy or sell receptacles, stamped in a permanent manner with a trade mark which is registered in the name of another person, except to such person or his authorized agent, or who use such receptacles, placing therein for sale the same or similar products as those for which said receptacles are used by the owner of the trade mark. In such cases, the receptacles shall be seized, which the infringer shall forfeit to the owner of the trade mark."

The said article of said order amends Article 287 of the penal code by extending the penalty therein provided to this offense.

Article 28 of said royal decree of August 21, 1884, is amended by Civil Order 18, series 1901, by substituting therefor:

"The petitioner shall pay for fees on the issuance of the title or ownership $12.50 United States currency; said payments shall be made at the proper office of finance within a term of thirty days from the date of notification of the concession of the trade mark, design or industrial model to the party concerned, under pen-

alty of forfeiture; presenting at the Department of Agriculture, Commerce and Industries the document attesting such payment, so that said department may issue the title mentioned, which shall be entered on the register opened for such purpose at the Bureau of Commerce and Industries of said department."

It is further provided in said order that a term of forty-five days from its publication be allowed for those who have obtained concession of trade marks, designs, etc., and have not obtained titles, to pay the fees and secure the title. A further clause provides that the use of trade marks, designs or industrial models, without title, shall be fined as provided in Article 39 of the royal decree of August 21, 1884.

Article 36 of said royal decree of August 21, 1884, is amended by Civil Order 511, series 1900, by substituting for Paragraph 2 thereof the following:

"Manufacturers, merchants, agriculturists and industrials applying for registration of the same mark, having distinguishing minor details, with the object of pointing out the various classes and grades of one product, or for any other motive, shall be furnished with a certificate of registration for each variation of the mark, stating their special use, and charging them the corresponding fees ($12.50 United States currency) for each certificate issued."

Production and Composition of Beeswax.

BY SAMUEL T. FROST.

With regard to beeswax, it was at one time thought that bees collected it directly from the flowers, but so long ago as the year 1792 it was known that beeswax was not found ready-made in nature, but is produced in the bee's body. Wax is formed in the body of the working bee from fluid honey and pollen; not involuntarily, as well-nourished animals form fat, but whenever the bees wish to form it. When they have taken the fluid honey and pollen, in a larger quantity than they need for their own nourishment, the surplus is retained, further digested, and allowed to pass into the blood vessels, in order to be chemically distilled there, and to exude upon what are termed the ventral plates on the under part of the abdomen. The wax leaves the secreting glands in a fluid state, and solidifies in the form of small transparent white scales, five-cornered, resembling mica, and shining lie mother-of-pearl.

When the bees begin to build comb, they hang together in festoons, the result of which is a cluster in the form of a bunch of grapes, and the heat thus generated by the cluster of bees facilitates the conversion of honey into wax. The newly-built combs are not always of the same color, but vary, in different districts, from a light-yellow to an orange-red. This variation in color is supposed to be due to the character of the pollen used, and not to the honey, because it was noticed that where dark kinds of honey were obtained, such as in heather districts, light yellow combs were produced, while combs of a very deep orange-red were formed from white honey. This observation led to a chemical investigatien which confirmed the conjecture that the pollen used by the bees gave the wax its distinctive color.

Beeswax consists chiefly of cerotic acid (cerin) and myricin, together with a little coloring matter and traces of hydrocarbons. The specific gravity of beeswax varies from 0.096 to 0.970, and its melting-point from 62.5° to 64° C, the solidifying point being two or three degrees lower. The coloring matter can be removed by bleaching in bright sunshine. Chemically pure wax breaks with a splintery fracture, and at 20° C. assumes that peculiar plastic condition described as "wax-like."

It is generally considered that in order to produce one pound of comb, from ten to twenty pounds of honey are consumed. Hence the reason why the modern bee-keeper endeavors to keep his combs in good condition from year to year, in order that the bees may commence to store honey as soon as the season begins, without wasting time and honey in building new combs. Hence also the reason why the bee-keeper now gets much less wax than formerly, because the combs used for storing honey may be used for a great many years, as the bees always repair any damage caused by extracting. Brood-combs, however, must be renewed from time to time; consequently, they are melted down.

Several methods may be adopted for melting down old combs and refuse wax, but the simplest and most suitable apparatus, where there is sufficient sunshine, is the solar wax-extractor. This is simply a tin, or wooden box, with a movable glass cover, and a sheet of tin placed inside, so as to incline toward a receptacle at the base. The combs to be melted are laid flat on the tin, side by side, the glass cover to be put on, and exposure to bright sunshine does the rest, the wax flowing into the receptacle. Another, rather primitive method is to put the combs into a loose bag, which is then put into a large saucepan, or copper, and fixed so as not to touch the bottom of the vessel, while a weight is placed on top to keep the bag from floating. Water is poured over it and allowed to boil. As the wax melts, it rises to the surface of the water; and when cold it may be taken out of the water in the form of a cake. Still another method is to place hot combs in a wax-extractor after the fashion of a porridge saucepan—i. e., one vessel to hold combs inside another vessel containing water. The inner vessel has a perforated false bottom, and the space beneath is connected with the outside by means of a tube. When the water boils, the wax melts and runs out through the tube into a receptacle placed to receive it. Wax obtained in this way contains a certain amount of dross; consequent-

ly, if pure wax is desired, it has to be melted and re-melted until free from impurities.

The chief adulterants of beeswax are resin, tallow, stearin, goat's fat, paraffin and vegetable and other inferior waxes. The only satisfactory test for beeswax is to determine the amount of cerotic acid, and the non-volatile fatty acids, present, but the following simple tests suggested by Mr. J. Demmler, may be found useful:

(1) When wax is chewed there should be no unpleasant taste, and it should not stick to the teeth. If wax is adulterated with other ingredients, the taste alone will detect them. If it sticks to the teeth the admixture of resin can be assumed. (2) Pure beeswax may be distinguished from adulterated by dropping a small piece of beeswax, of known purity, on a hot iron plate. The odor given off is noticed. Then a piece of the suspected beeswax is burnt in the same way. If it contains cerisine a disagreeable fatty white smoke is given off, which differs the more from the smell of wax the more ceresine there is mixed with it.

Beeswax has many uses, but perhaps none more important than its use in medicine for the making of ointments, plasters and cosmetics, for stopping teeth, and for taking impressions of the mouth in dental work. It is also used in France as a remedy for diarrhœa, and the vapor of beeswax is said to be a useful remedy for coughs, expectoration and erysipelas. But beeswax is employed most for industrial and household purposes, viz., in the manufacture of candles and wax tapers, making wax figures and for modeling, for waxing sewing thread, for grafting, and for making various polishes and dobbins. It is produced in more or less quantities in most countries where flowers bloom and bees are kept, but the following notes will, perhaps, give some idea as to the countries which produce sufficient for their own use and for exportation also.

A great deal of the beeswax imported into this country does not find its way into Mincing lane, but is shipped direct to the manufacturers or wholesale dealers from Jamaica, Zanzibar, Madagascar, New Zealand, Australia, Spain, India and Morocco. A certain proportion of the wax that is offered for sale in the drug market is grossly adulterated, not artistically, so as to require the services of an expert analyst to detect the adulteration, but with such things as stones, earth, dead leaves, and some of it is very wormy. Like honey, the imported wax varies greatly in color and quality, ranging from white through all the shades of yellow and brown to black. Perhaps the article for which there is the greatest demand in the open market is Jamaica wax, which is shipped in barrels, casks and cases weighing from two to four cwt., and always finds an unlimited sale in London on account of its undoubted purity. The prices range from £7 10s. to £8 15s. per cwt., and occasionally there is very active competition for it. Its principal uses are for boot and furniture polishes, heel-ball, tailors' wax, photographic compositions, etc. The total exports from Jamaica in 1898 were valued at £10,294, against £4,823 in 1888; while the value of the honey exported from Jamaica during the same year was £203, against £1,341. The United States has increased her imports of wax from Jamaica; while the amount coming to the United Kingdom has decreased. The increased production of wax in Jamaica is very largely due to the intelligent action of the local agricultural societies, backed up by the Imperial Department of Agriculture, in encouraging a better system of apiculture. Jamaica wax varies in color from a nice pale brown and yellow to good red, and pale to dark-brown, or chocolate color.

In connection with the production of beeswax in the West Indies, a suggestion has recently been made that—inasmuch as Muscovado sugar can be purchased throughout the West Indies in wholesale quantities at from 3s. to 4s. per cwt., and taking into consideration the fact that the honey flow does not exceed four months of the year in the most favored localities—it would pay well to feed the bees nearly all the year round either with dry sugar, syrup or molasses, making the honey produced a by-product and the wax a main product. It is said that it takes about 10 pounds of sugar to make 1 pound of beeswax, therefore should the suggestion prove to be a practical one, it would be a great boon to West Indian bee-keepers, who would no doubt then import a species of bee from India which is especially suitable for wax production.

Morocco wax is principally shipped from the ports of Mogadore and Safi. It is seldom met with in a pure state on the London market, the usual adulterant being goat's fat. Paraffin has also occasionally been used as an adulterant.

Chilian beeswax is chiefly imported into this country at Liverpool. The annual total production is said to be about 350 to 400 tons, of which about 15 per cent. are consumed locally, and the remainder is exported to Liverpool, Hamburg and Havre. The area of production lies between Coquimbo in the north and Concepcion in the south. There are usually three kinds of Chilian wax subdivided in first, second and third qualities. It is often adulterated, and the refining is generally badly done.

Egyptian wax is exported in considerable quantity, but practically none reaches this country. It is one of the best crude waxes, and is considered the best for bleaching purposes. Nearly the whole of the Egyptian wax exported is used in Germany for fine laundry work. Abyssinia also exports beeswax; it is of a dark color, but fairly good as regards quality. Syrian wax is exported from Alexandretta, and is peculiar for its large variety of color and odd shapes. Germany produces a very good wax for technical, medicinal and artistic purposes, as do

also the various Austrian provinces and Switzerland. Turkish wax is generally of a bright orange color, and is one of the best and dearest waxes obtainable. France, Italy and Spain produce a considerable quantity of wax of fairly good quality, prices ranging from £6 10s. to £7 7s. 6d. per cwt. Wax is also largely exported from the East Coast of Africa and Madagascar, and is packed mostly in bags, being generally in blocks or oblong rolls, known as "Mozambique rolls." The present price of Madagascar wax is £6 10s. to £6 15s. per cwt. Australian wax, like that from Jamaica, is always pure; India also sends a genuine wax, both bleached and unbleached, mostly shipped from Bombay and Calcutta.

Waste.

A tactful business man exercises discreet economy in the conduct of his commercial affairs. It matters not how large or extensive his interests, or how liberal or even extravagant his tendencies at home or in social life, he does not permit wilful waste of anything in his store, manufactory, or counting room, no matter how insignificant that waste may be.

If he be a thorough disciplinarian, he borders on what may be termed by some as small or unreasonably mean. Such a man is not usually illiberal in providing all requirements for a proper conduct of his affairs, nor is he disposed to underpay his help. What he wants and rightfully demands, is that those who are paid to advance and protect his interests shall not be too extravagant in the use of what belongs to him and not to them. Because of this economic characteristic, and for the reason that for every dollar he expends he wishes full value, not only in direct returns, but in the use thereof, he is generally successful, and is thus enabled to be liberal in his domestic and social life.

Too often we find a clerk or employe who recklessly uses expensive office stationery for memoranda; who never regards cord or twine once used as useful a second time; who feels that no matter how short the distance, carefare amounts to naught; who unreasonably telegraphs or telephones here and there, though each message must be paid for; who throws pins, paper fasteners and rubber bands into the waste basket with discarded correspondence, and who, in short, does not realize that a "penny saved is twopence earned." These acts of indifference, each in itself, are of no moment, but in the aggregate they figure up a tangible sum, if not a large amount. It is not so much the money involved that should be considered as the reckless disregard of the employer's welfare.

The man or woman who would criticize an employer for exacting economy on the lines set forth would be as much justified in regarding as proper or prudent the reckless throwing away—not expending—of nickels or dimes by our prominent capitalists, contending that the small currency is too insignificant to carry about the person. It behooves the employer, no matter in what line of trade, to educate his help to economize in every respect and to the minutest detail. By so doing he not only benefits himself but becomes a public benefactor.—Wall Street Summary.

Is It Necessary To Send Receipts.

BY J. A. SCALES, IN NATL. LAUNDRY JOURNAL.

The question of "the discontinuing of sending receipts in acknowledgement of all forms of remittances, upon which the indorsement of the receiver would be a legal receipt," seems to be one upon which little can be said, certainly little than can be termed new.

In the first place, the point from which the subject should be considered is the result of actual experience as against imaginary outcome, pictured by those who would hold to the old methods.

This question was taken up by the house I have the honor to represent, nearly two years ago. It had been our custom for some time previous to print on our remittance forms: "No acknowledgement necessary." Having experienced no inconvenience from the practice, we concluded it could be extended to our own customers, and so decided to try it.

I believe we were the pioneers in this move in Louisville, and now, after twenty-one months of actual experience, we are convinced that it was a move in the right direction. So successfully has it worked that I have yet to see the first complication to arise from it, and you can get an idea of the great saving of labor and postage to us thereby when I tell you that we acknowledge the receipt of less than 10 per cent of the remittances that come to us.

However, it is impossible to eliminate altogether the formal receipt, for it must be given in some instances, such as formal vouchers required by corporations, settlements with administrators, receivers, etc. It is also our custom to acknowledge receipt of currency when the amount exceeds $1, and, if a customer insists upon it, we send him receipts regularly. In other words, if the question of business or no business hangs upon a receipt, we send the receipt.

The point thus far gained has required patience and some persistence. On many occasions we have met opposition, but when our printed notices fail to give satisfactory explanation, we write special letters, setting forth our views and that is generally the end of the matter, though sometimes we have been unsuccessful in persuading the customer to see it our way.

In some instances the opposition has been persistent—in others, it seemed ludicrous.

The same practice has also been adopted by represen-

tative institutions in other cities, and its success is no longer a question of doubt with them, and the fact that the subject was discussed with favor by the National Association of Credit Men clearly demonstrates the manner in which it is being received by the mercantile interests at large.

This testimony also shows that the result has been satisfactory here as elsewhere, and, having been obtained by individual effort, if a united effort be made, the result will be even more gratifying.

As another proposition, the present era in commercial life demands the introduction of the most modern methods and the discarding of all practices which are unnecessary or cumbersome, so long as it does not interfere with, or retard the progress of business; in other words, that we take the shortest cut to reach a given point, and this principle applies to the credit man as well as to any department, for he must see to it that the machinery of his department works with the least possible friction, and that the expense does not compare unfavorably with that of the others, and, as we have already shown, the abolition of the sending of receipts though comparatively small, is one feature that counts.

At this point I will digress to say that if it is decided by the Louisville Credit Men's Association to inaugurate a general move of this kind, I think it would be well to incorporate some other features which are of a kindred nature, viz.:

First—Insist upon the customer remitting for specific charges.

Second—Urge him to use a regular remittance form or make an intelligent statement of remittance in his letter, and then let him specify in his check the invoices it is intended to pay.

The third feature will require some explanation.

It will doubtless be remembered that when this subject came up for discussion at the meeting of the National Association of Credit Men here last June, there was an objection offered on the ground that the discontinuing of the sending of receipts would induce a customer to send his individual check instead of exchange.

This is a point worthy of consideration, especially by those who are doing a considerable amount of business outside of the "free" States and have to pay collection charges on local checks at the rate of 25 cents per hundred dollars.

When paid and cancelled the customer's check goes into his possession and can be kept as a record, but the cashier's check, of course, remains with the bank; therefore, if he has not the receipt, it is only natural that he should want his own check properly indorsed.

This can be overcome by suggesting that the customer buy exchange in his own name and then indorse it over to the firm he intends to pay, specifying, if he chooses, in the indorsement the bills to be paid. Then, should any question or dispute arise, which is exceedingly doubtful, it is a matter of little trouble to obtain a complete history of the transaction by going to the records of the local bank.

Now, if we shall have convinced ourselves that the affirmative side of this question is the correct one, the next proposition is, how shall it be made effective.

Most of our dealings are with the countryman or small townsman, which is practically the same, and from my observation, he is a man disposed to cling to the traditions of his fathers. It could hardly be expected that he would voluntarily co-operate in this move. He will generally affiliate with the same political party and adopt the same form of religion, and you will also observe that he will conduct his business as he was taught to do when he was growing up, though this is not necessarily from any lack of natural ability or intelligence.

A great many of the men who have become prominent in the various avocations of life have been men from the country. They have the latent brain power, supported by a strong constitution, that only needed to come in contact with city life or activity and opportunity for development: and, while the country gives much to the city in this and other respects, there seems to be a general law of equalization whereby the city gives back much to the country. Almost everything new the countryman get comes from his brother in the city. The improvement in his farm equipments, his vehicles, his household goods, his styles—in fact, everything of this nature he gets from the city, and among them his business methods. He is sometimes skeptical and generally slow to take up modern methods, but we must not allow him to put us off because he was taught a certain thing must be so and so.

The necessity for such improvements is first apparent to the larger commercial enterprises, which also of necessity must be located at the larger trade centers, and, therefore, it devolves upon such institutions to see to it that these methods are further disseminated through the smaller channels of trade.

Adulteration of Soda Crystals In England.

We hear on good authority that energetic measures are being taken by some of our leading chemical manufacturers to attempt the suppression of the adulterated washing soda trade, which has now assumed such proportions as to require attention from those who are suffering from this form of unfair competition. In our special issue of Jan. 24 last we called attention to the practice of some of the smaller makers of crystallizing out Glauber salts with their soda crystals in order to increase their profits, or to reduce their losses, and we had hoped that this objectionable practice was almost

extinct by this time. We have been informed, however, that this is not the case, and not only is much of the home production adulterated, but the spurious article is being imported from abroad.

No doubt all honest manufacturers will regret this state of things, and it is not surprising to find that an organized attempt is being made to stop it. It is, of course, not possible to obtain a commercial quality of soda crystals absolutely free from sulphate of soda, as even the purest form of the commercial article contains nearly 1 per cent. of this salt, and the Leblanc process in its usual form was used to furnish a crystal containing only $1\frac{3}{4}$ to 2 per cent. of sulphate. Good foreign crystals were also at one time to be found in the market, with as little as $\frac{1}{2}$ per cent. of sulphate. Contrast this state of things with what is to be found in the market now. A sample analyzed in our laboratory contained 55.8 per cent. of water and 41 per cent. of sulphate of soda, while the carbonate of soda only amounted to just over 2 per cent. This is bad enough in all conscience, but we have come across sample of so-called "washing crystal" which have not contained even a trace of alkali! Surely it is high time that such fraudulent practices were stopped. At the present moment Glauber salts are worth about 26s. per ton, and, as soda crystals of average quality are selling at £3 sterling per ton, it needs but little calculation to see the large profits made by those whose consciences allow them to palm off Glauber's for washing soda.

We hope that success will attend the efforts of those who are attempting to purify the market from these fraudulent practices, as we hear that in some quarters dealers even are purchasing pure and unadulterated Glauber's for mixing with soda crystals—that is to say, not even taking the trouble to crystallize them together, but trusting to secure a supply in the block form, free from needle-shaped crystals, by means of which latter Glauber's can generally be detected.

We seriously advise all honest dealers to carefully examine their future purchases, and to specially mention freedom from sulphate in their contracts; otherwise we fear they will soon find themselves in trouble. Good soda crystals should contain less than 2 per cent. of anhydrous sulphate of soda, and less than 1 per cent. of chlorides, the alkalinity being equal to 21.2 per cent. of soda on the 31 equivalent.—Chemical Trade Journal.

Borax.

Borax, which is so largely used in the arts, and for household purposes as well, is found in many parts of the world in a more or less pure state, and the process of separating it from the crude mineral is very simple. A first operation is grinding the material in boiling water containing a small portion of calcined carbonate of soda. The clear solution thus obtained is run into tanks and crystallized. This is only 50 per cent. borax, other elements being sulphate of lime and common salt. The crystals obtained by this process are then put through another process by heating them to a certain temperature at a given concentration, when the borax proper crystallizes out, and separates from the impurities held in suspension, the mother liquor being drawn off. Borax has been found in such quantities of late years that it has declined greatly in price; at once time it cost over $200 per ton, but is now but a fraction of that sum.

Problems In The Fat Industry.

In a recent lecture by Dr. J. Lewkowitsch, figuratively speaking, the fat industry was depicted as a great continent, containing numerous rich tracts of country very imperfectly surveyed but sufficiently explored to indicate that abundant harvests await the enterprising investigator. Oils and fats have, perhaps, been employed almost as long as the human race has existed, and soaps have certainly quite a respectable antiquity, since Pliny alludes to their manufacture by the Teutons, but the true scientific foundation of the fat industry, which today has an importance gauged financially at £50,000,000 annually for England, dates only from Chevreuil. The five or six decades of comparative rest which succeeded the chemically-active period of this time have given place to renewed vigor, and at the present moment we appear to have reached another wave of scientific development in the chemistry of fats and oils. As the raw materials of the industry are produced by Nature so bountifully, synthesis has not yet acquired importance, although some work has been done in this direction. It is true that tallow, through the falling off from Russia, North America and Australia, has been scarce for several years, but the supply of palm oil is, or could be made, inexhaustible by properly educating the natives of their respective palm-growing regions, and South Africa, from the hopes raised by Lord Milner's report, is looked to as a future fat-exporting country, while untapped resources are still to be obtained from China, Japan, India, Brazil and the South Sea Islands. Manufactures connected with fats are grouped by the author into (1) industries connected with refining; (2) industries in which the glycerides are chemically changed but not saponified; (3) industries in which saponification is carried out. The problems are enumerated as still unsolved in these several branches are very numerous. We can in the space at disposal give but a brief mention of them.

The industry of edible fats is in its infancy; more perfect means are needed of decolorizing, deodorizing and permanently removing rancidity, which, by present

methods, is liable to reappear. The chemical nature of rancidity is not yet understood; its elucidation would be highly productive; there would be a large demand for a non-rancidifiable vegetable butter in India, where the us of animal fats is excluded. A substitute for chocolat fat is wanted; it should melt at about 34 deg. C.; tallow cannot be so perfectly refined as to be no longer disagreeable, while palm or cocoanut oils are peculiarly liable to rancidity; mineral waxes must not be used, and Japan wax is not suitable. A substitute for olive oil is another desideratum. Arachis oil has a good flavor, but the separation from it of its stearine, which on cooling assumes a gelatinous form impossible to filter, is an unsolved problem. The perfect deodorization of fish oils has not yet been accomplished; Norway, Canada and Japan ought, in the author's opinion, to attack this problem officially. Bleaching is as yet far from perfect, since many bleached oils become recolored on keeping. The harder kinds of palm oil do not lend themselves well to present known processes; bone fat has not yet been satisfactorily decolorized.

Problems belonging to the second group are the exact explanation of the changes which a drying oil like linseed oil undergoes during the process termed boiling, also in drying. How do dryers really act? Are they catalytic agents? The information given in the textbooks on these subjects is incomplete or erroneous. The chemical changes taking place in the preparation of brown oils require further investigation. Of what does the vulcanization process really consist? How is the sulphur absorbed? Only the fringe of possible solutions to this problem has been touched.

In regard to the third group of industries, those bearing upon saponification, we are here on better known ground, but the equation

$$C_3H_5(OR)_3+3H_2O=C_3H_5(OH)_3+3ROH$$

so generally accepted has but recently been shown to be only the net result of three stages of change, the first into diglyceride, the second into monoglyceride, the third into glycerol, etc. The problem of stopping the reaction at one or other of these stages seems almost insurmountable, but would be useful.

Saponification under high pressure with steam is not satisfactory when the free fatty acids are to be used for soap-making; here, then, is another problem of very great importance. Other fields of inquiry to which attention is invited are the conversion of oleic acid into a solid fatty acid by better means than those now known, which leave much to be desired, improvement of the luminosity of candles, a rapid means of preparing toilet soap to avoid the slow-cooling process, the study of metallic soaps, of which we possess but very imperfect knowledge, a solvent for glycerine which would remove it from water, the isolation of fatty acids, the separation of isomeric acids, the study of such bodies as the lactones of fatty acids, and the synthesis of glycerides in nature. The author concluded by expressing the hope that a modern Chevreuil would arise and shed light on these obscure points.

The paper was followed by an active discussion, in which, among others, the chairman (Mr. Reid), Mr. Joeclyn, from the United States, Dr. Divers, Dr. Dvorkovitch, Dr P. Schidrowitz and Mr. Hall took part.

Ammonia Soap.

W. I. Wilbert (*Am. Jour. Pharm.*, LXXIV, p. 589) recommends a soap made as follows, as a clothes cleaner, or grease eradicator: Mix together 50 Cc. oleic acid, 25 Cc. ether, 25 Cc. chloroform, 250 Cc. benzin, and 50 Cc. spirit ammonia, in the order given, with occasional shaking. If a white emulsion is preferred, the same or double the quantity of ammonia water may be substituted for the spirit, the excess if alkali in this case being rather an advantage.

Ammonia.

This valuable chemical compound is often called volatile alkali to distinguish it from the fixed alkalies, potash and soda, for on applying heat it evaporates away, while the others do not. This substance in its purest state is a highly pungent gas, which is very soluble in water. It consists of 3 volumes of hydrogen and 1 of nitrogen condensed into 2 volumes, and hence its density is 0.591, atmospheric air being taken as 1.000. By strong compression and refrigeration it may be liquefied into a fluid, whose specific gravity is 0.76, compared to water 1.00. This liquid ammonia is much used in ice-making machines. Ammonia gas is composed by weight of 82.53 nitrogen and 17.47 hydrogen in 100 parts. It is obtained by mixing chloride of ammonia, commonly called sal ammoniac, with quicklime in a retort or still, apply a moderate heat, and receiving the gas, either over mercury for chemical experiments or in water to make the liquor ammonia used for the purposes of medicine and industrial arts. Woulfe's apparatus is commonly employed for this condensation.

Ammonia gas is generated in a great many operations, and especially in the decomposition of many organic substances by heat or fermentation. Urine, if left to itself for a few days, is found to contain much carbonate of ammonia, and hence this substance was at one time collected in great quantities for the manufacture of certain salts of ammonia, and used in wool-scouring and calico-printing. When woolen rags, horns, bones and other animal substances are decomposed in closed vessels by fire they evolve a large quantity of ammonia, which distills over in the form of a carbonate.

The main source of ammonia now in this country for commercial purposes is the ammonia liquor or gas liquor

of the coal-gas works. A large quantity of watery fluid is condensed in the tar pits, which contains chiefly ammonia combined with sulphuretted hydrogen and carbonic acid. When this water is saturated with hydrochloric acid and evaporated it yields chloride of ammonia, or sal ammoniac, somewhat impure, which is afterwards purified by sublimation; on distilling with lime this yields ammonia. The soot of chimneys where coal is burned contains both sulphate and carbonate of ammonia, and was extensively employed at one time to manufacture these salts.

In making liquor ammonia on the great scale a cast-iron still should be preferred, and equal weights of quicklime and sal ammoniac should be brought to the consistence of a paste with water before the heat is applied. In this case a refrigeratory worm or globe should be interposed between the adapter tube of the still-head and the condensing bottles made of earthenware. The chloride of calcium which is left in the still when the whole of the ammonia is expelled is of little value. Water is capable of condensing easily about one-third of its weight of ammonia gas, or 460 times its bulk. The following table of the quantity of ammonia in 100 parts by weight of its aqueous solutions at successive densities is the result of very careful experiments made by Ure recorded in the Philosophical Magazine for March, 1821.

SPECIFIC GRAVITY TABLE OF LIQUOR AMMONIA OR VOLATILE ALKALI.

Ammonia in 100.	Water in 100.	Specific gravity by experiment.
26.500	73.500	0.9000
25.175	74.825	0.9045
23.850	76.150	0.9090
22.525	77.475	0.9133
21.200	78.800	0.9177
19.875	80.125	0.9227
18.550	81.450	0.9275
17.225	82.775	0.9320
15.900	84.100	0.9363
14.575	85.425	0.9410
13.250	86.750	0.9455
11.925	88.075	0.9510
10.600	89.400	0.9564
9.275	90.725	0.9614
7.950	92.050	0.9662
6.625	93.375	0.9716
5.300	94.700	0.9768
3.975	96.025	0.9828
2.650	97.350	0.9887
1.325	98.675	0.9945

Where Olives Grow.

BY CHARLES F. HOLDER.

In the wide valley of San Francisco, down by the crumbling mission of San Diego, or in the shadow of the picturesque pile of Santa Barbara, the stroller finds some of the oldest olive groves in California. They were planted by the old padres, inspired by the old and true Italian proverb, "An olive orchard is a gold mine on the face of the earth. He who plants an olive orchard plants for the centuries of perpetual income." Whether it is the associations or the charm of the climate, that is one of eternal summer so far as real winter is concerned, there is a fascination about the olive fruit and tree that induces many to attempt its culture aside from the merely commercial reasons. We see the old grove at San Diego from the meso on which stands the fast-crumbling mission. It lies in the valley against low hills through which arroyos have broken. Along this old King's Highway are some of the oldest date palms in America, and among them is a modern windmill startling in its incongruity.

There is something particularly attractive about the olive tree; its very shape tells of thrift; its upright growth, graceful and pointed leaves, olive-hued now, but turned by the gentle wind, glisten like silver. It is generally supposed that the home of the tree was in Italy, where it has been known for ages, and where the growth is so slow that it is a common saying that a man plants olives for his grandchildren; but on the foothills near Elizabeth Lake a wild olive has been found, a large and thrifty tree. It appealed to the early Californians because it came into early bearing and practically never died. The old trees of San Fernando, which have been deserted and neglected for seventy-five years, are now being cared for, and are rapidly throwing out branches and assuming normal shape and beauty, and bid fair to equal the famous trees of Europe and Asia, which have been bearing fruit for one thousand years.

The enthusiast, if he be a man to succeed, does not come to California and sit in the sun and watch things grow, but comes prepared to concentrate all his intelligence upon the work in hand. The successful culture of the olive, or any other fruit, in California requires intelligence and work as elsewhere, despite the fact that nature invites, indeed urges, one to rest by the wayside.

It is the land of *dolce far niente*, but not to the successful orchardist; he must be a man of vigor and energy and eternal vigilance his watchword. Having secured his land, he buys from some reliable dealer cuttings taken from good, sound trees. These are three-fourths of an inch in diameter and two-thirds of a foot in length—slender material one might think from which to produce a bearing tree in four years. These cuttings have been taken from the parent tree in December or

January, and are planted in sandy soil, being replanted permanently in February and March at a distance of about twenty feet apart. These will grow readily, and for a year the ground is kept well turned, the bush then being trimmed into a tree by cutting all the shoots but one, and in succeeding years the grower watches the tree and prunes it, with the idea in view of making a lusty tree. In four years some berries will be obtained, and the orchardist is delighted at the luxuriant growth and the rich green olives, which hang so gracefully, but yet not sufficiently abundant to be of commercial value. In the sixth year the trees should produce thirty gallons each, and in the eighth year the grower finds himself in possession of a beautiful and productive grove. The trees have grown so wide that they fill the entire space and meet, and each tree under the most favorable conditions should produce forty gallons of olives. The orchardist figures that with one hundred trees to the acre, and forty gallons per tree, he will have four thousand gallons: but there are pests and other enemies which materially reduce this estimate. Indeed, if the grove produces a fourth of this, he is doing well.

In November, when the first rains come, the olives ripen, and as soon as the berries begin to turn purple the picking begins; and if five hundred acres have been planted and are in bearing, a gang of Mexicans and others may be seen on the ground. Each picker carries a canvas open bag suspended in front of him, about the neck, and a good picker should pick four hundred pounds per day. Some use ladders; others pick from platforms on the wagons which are driven along. After the picking the olives are subjected to a drying or evaporating process, and now the orchardist is confronted with the most delicate part of his work, the making of olive oil. In the olden days the crusher or mill was a conspicuous feature in every mission, and that of San Fernando is still in good conditon, while the ruin of the old mill of SanGabriel is one of the points of interest in the San Gabriel Valley. The temperature of the drier is not over 130 deg., and so arranged that the work is completed in two days. The drier itself has a capacity equal to the production of the grove, that of one orchard being 500 square feet of surface, and holding about 2,000 pounds of olives; five pickers at 400 pounds a day keep it filled. The crusher is interesting. It resembles a millstone, but rests on its edge, which is six inches broad and runs in a circular trough six feet across, made of cement. Its axis is a long pole which is fastened to the center of the trough, at the opposite end of which is harnessed a horse, the motive power; in the old days several Indians performed the work.

In such a mill, seemingly small for the purpose, the product of an orchard of one thousand trees can be crushed. The millstones differ in size, and in large orchards there are several. A building is generally erected over the crusher, and the horse works outside of it, as everything about the olive is kept as clean as possible. The olive pulp is taken from the crusher and massed in lumps or cakes about three feet square and three inches thick. The press resembles a New England cider press, and two are required to press out one hundred gallons of oil a day. The entire process is interesting. The result from the press is run into tanks, where it remains for three months, the oil rising to the surface, where it is readily recovered. The seemingly dry pomace or residuum in the press is put through a second crushing and treated to a bath of hot water, by which a large quantity of second-quality oil is produced, even a third quality being made. The oil now obtained goes to the clarifier or filter, which is a series of boxes from five to seven in number, the bottom covered with fine cotton batting. Some use a series of metal boxes, one in the other, each having a wire sieve bottom, the oil dripping from one to the other, and coming out pure and as beautiful as liquid amber. The majority of foreign or imported oils are adulterated and made up of cottonseed or hog's lard. The extent to which this is carried may be realized from the fact that the cottonseed exportations from New Orleans for this purpose in one year were sufficient to fill fifteen million oil bottles at a cost of ten cents per bottle.

The orchardist probably pickles and bottles a portion of his crop, and in California there is an ever-increasing demand for the ripe olive, which when cured is very dark and rich. In picking, the olives are first placed in fresh water, which is changed daily for forty or fifty days, after which they are placed in salt brine to be changed several times, and finally placed in a brine the water of which has been boiled, and there are many variations from this which result in the attractive olive of commerce. The orchardist now has a fine producing grove, but his paths are not all *coleur de rose,* as while the olive can be said to be freer from pests than many other trees, yet success is only attained at the price of eternal vigilance. Nature is capricious, and does not always produce conditions perfectly favorable. A year of intense heat may come just at the wrong time, or a cold snap may literally nip the year's prospects in the bud, and early in his experience the orchardist is confronted with an army of pests which he must fight day and night. How discouraging this is at times can be realized by a glance at the authorities on the olive scale insect, by whom we are told that one female will produce four thousand eggs, and that a single coccus will produce five generations, nearly six million descendants; or at the end of a year, according to Lejourdan, the progeny of a single female will be one billion billion. This is appalling, yet the world's supply of olive oil is kept up, and the pure oil of California leads in quality and return.—Scientific American.

New Method of Extracting Olive Oil.

The agricultural department of the University of California is testing a new method for extracting the oil from olives, namely the use of a centrifugal machine in place of the customary press. The idea was borrowed from Algeria where the process though worked with the crudest apparatus is said to be giving excellent results. Dr. George W. Shaw, assistant professor of agricultural chemistry, has started the work at Berkeley. He has set up his machinery and commenced operations. From his preliminary experiments he feels confident that he can increase the yield of oil by at least 10 per cent, over the old method. That will mean a tremendous saving in the production of oil, which has hitherto been attended by a large and unavoidable waste. In the old method, which has been in vogue for years, it has been necessary after crushing the olives to submit the pulp to a powerful screw or hydraulic press in order to strain the oil. A crude wrapping of grass mats, wooden gratings or sacking has been needed, and this has absorbed much of the product, especially as the pressing went through several stages, during which various qualities of oil were secured.

Determining Free Alkali In Soap.

By R. E. Divine.

The usual method of making this determination prescribes a separation of caustic from carbonated alkali by drying the soap, dissolving in absolute alcohol, and after filtering and washing the undissolved carbonate with alcohol and dissolving in water to titrate the solutions containing caustic and carbonate, respectively, with standard acid. This method is open to several objections, aside from the amount of time consumed. If it is desired to obtain accurate results on the caustic and carbonate separately, the preliminary drying of the soap introduces an error since the caustic alkali will take up carbon dioxide from the air unless the drying is done out of contact with air. It is quite a troublesome process to filter an alcoholic soap solution if one is not provided with appliances to keep the funnel hot during filtration. Dudley and Pease use an alcoholic solution of stearic acid for titrating the caustic, but still filter from undissolved carbonate, and determine the latter in the usual manner. In the following process the writer has succeeded in eliminating filtration. For this method it is necessary to provide three standard solutions:

1. Hydrochloric acid, N/10 (for standardizing 2).
2. Caustic soda, N/10, in alcohol.
3. Stearic acid, N/10, in alcohol.

2 and 3 should be exactly equivalent one to the other, titrated warm with phenolphthalein indicator.

Two grams soap (which needs no drying) is weighed into a round-bottomed flask, of about 300 cc. capacity, and 50 cc. alcohol poured upon it. N/10 stearic acid is now run in from a burette in amount judged to be sufficient to neutralize the free alkali in 2 grams of the soap, some phenolphthalein added, and the flask then stoppered with a cork stopper, through which passes a glass tube about 30 inches long and of about $\frac{1}{4}$ inch internal diameter, the lower end ground to a point on a grindstone, and the purpose of which is to serve as a reflux condenser The flask and contents are placed on a steam-bath and heated thirty minutes, at the expiration of which time the solution should be quite clear and show no alkali with the phenolphthalein. If the solution turns red during the boiling, showing that an insufficient quantity of stearic acid has been added at first, add more of that solution until the colour disappears then several cubic centimeters in excess, and heat twenty minutes further. The flask is now removed from the bath, and, after a few minutes' cooling, tibrated with N/10 caustic soda. The difference between the number of cubic centimeters stearic acid solution added and the number of cubic centimeters caustic soda used to back titrate is equivalent to the total free alkali present.

While the first flask is heating, weigh out in a similar flask 2 grams of soap and add 50 cc. alcohol, and place on the steam-bath. When the first test is finished, calculate roughly the total alkali, assuming the total quantity to be carbonate. Now add to the second flask an amount of 10 per cent. barium chloride solution sufficient to precipitate alkali found, heat a few minutes, add phenolphthalein, and titrate with N/10 stearic acid. The titration must take place slowly and with thorough agitation of the liquid for the reason that the sodium or potassium hydroxide reacts with the barium chloride added and forms sodium chloride and barium hydroxide. The latter is not very soluble in the alcoholic liquid and sufficient time and pains must be taken to insure its complete neutralization by the stearic acid. A blank test should be made on 50 cc. of the alcohol, since this frequently contains carbon dioxide, and the number of tenths cc. N/10 caustic soda necessary to neutralize the free acid in this quantity of alcohol added to the reading of the stearic acid burette in the second test. This corrected reading gives the number of cubic centimeters N/10 stearic acid used to neutralize the caustic alkali in 2 grams of soap. The difference between the total alkali found and the caustic, will, of course, give the carbonate. For example: 2 grams of soap and 15 cc. N/10 stearic acid; run in 3.2 cc. N/10 caustic soda to back titrate. Consequently, 15—3.2 equals 11.8 cc. N/10 stearic acid equivalent to total free alkali.

To neutralize the caustic in the sample treated with barium chloride was required 4.1 cc. N/10 stearic acid to neutralize carbonated alkali.

1 cc. N/10 stearic acid equals 0.004 gram caustic soda or 0.0053 gram sodium carbonate.

The above figures calculated to percentage would be: 0.86 per cent. caustic soda and 1.99 per cent. sodium carbonate.

It is to be noted that a rubber stopper cannot be used in the flasks for dissolving soap on account of the sulphur in the rubber, which decolourizes an alcoholic solution of phenolphthalein. The method is applicable to all soaps which do not contain fillers which react with the standard solutions employed.

PATENTS AND TRADE-MARKS.

The following list of recent Patents and Trade-Marks is reported by W. G. HENDERSON, Solicitor of American and Foreign Patents and Trade-Marks, Norris Bldg,, Washington, D. C. A copy of any of the following will be furnished by him for 15 cents.

PATENTS.

727,078. Laundry Apparatus. Harry Budd, Independence, Kan.

727,120. Washing-machine. Frederick C. Fette, Wheeling, W. Va.

727,368. Soap-handle. Edward J. Howard, assignor to himself, J. Simon and J. G. Miller, New York, N. Y.

LABELS.

9,929. Title: "Crouch's Ammoniated Soap." (For soap.) The Crouch Chemical Co., Pittsburg, Pa.

9,961. Title: "Roever's Blue-Naptha." (For soap.) The Henry Roever Co., Chester, Pa.

TRADE-MARKS.

40,171. Washing Compound. George Holden, Lowell, Mass. The word "Nedloh."

40,278. Washing Powder. The Dufur-Banzhaf Mfg. Co., Denver, Colo. A rectangular panel of two lines. In the lower half of panel is set an oval picture extending over the side lines of the panel, the picture representing some mountains, with the higher peak in the distance capped with snow, and associated with the picture, in the upper part of the panel are the word "White Cap."

AROUND THE SOAP FACTORIES.

News-items sent us by our readers will find prompt attention in this column

The R. L. Hall Soap Co., of Detroit, Mich., filed articles of association. The company will manufacture and sell laundry and toilet soap, washing powder, glycerine and perfumery, and is capitalized at $20,000, with $12,500 paid in. The stockholders are: Robert L. Hall, 750 preferred; L. Hall, 1,200 common; John E. Rouland, 25 common; Mirvan L. Hayes, 25.

The Independent Rendering Association has been organized at Portland, Maine, for rendering grease and tallow, and has a capital of $50,000. President, M. W. Baldwin; treasurer, A. S. Conant, both of Portland.

Incorporated: Gowans & Sons, at Buffalo, N. Y., to manufacture soaps. Capital, $100,000. Incorporators: John Gowans, Jas. H. Gowans, G. H. Gowans, all Buffalo, N. Y.

Supplies required for the Mare Island Navy Yard, as follows: Paints, oils, varnish, vitriol, gasoline, lye, beeswax, soap, etc. Bids will be opened June 16.

Andrew L. Hartness, soap manufacturer, of Detroit, Mich., has filed a voluntary petition in bankruptcy, stating his liabilities at $4,392.49, with assets of $725.

The Gulfport Cotton Seed Oil, Fertilizer and Manufacturing Co., of Gulfport, Miss., is a new firm that will count soap among its products.

The Hamilton Soap Co. has been incorporated in Paterson, N. J. Capital, $25,000. Incorporators: Geo. W. Kane, James F. Carroll, and Frank Fabris.

Ottumwa, Iowa, is trying to secure the location of a soap factory in that city.

The soap and tallow works operated by Harry Y. Baxter near Upland, Pa., were almost completely destroyed by fire on May 8, originating in the boiler room. Loss about $5,000.

Capt. John B. Ford died on May 1st, after long suffering from cancer, at the age of 91.

Born at Danville, Ky., in 1811, the deceased began his business life as a saddler, but soon abandoned it for the more promising field of ship-building. Still later he sold out his shipyard, which had grown to large proportions, and, after some reverses, undertook to introduce the plate glass industry into this country. In this he succeeded so well that in the city named after him—

Ford City, Pa.—his large number of employes erected a life-size statue to him, in recognition of his services. It is said that he was also the first man to discover the availability of natural gas for fuel. To us he is best known as the prime mover in the establishment of the Michigan Alkali Co., at Wyandotte, Mich.

The Thompson & Chute Soap Company, of Toledo, Ohio, have filed in the United States court their answer in the suit brought against them by the Fels & Co., on the ground of trade mark infringement. The plaintiffs are the makers of the well known "Fels Naphtha" soap, and they claim that the defendants are using a name and style of package for their product that resemble so closely the name and package of their own soap as to constitute an infringement on their trade mark rights. The answer of the Toledo firm is a general denial of the allegations of the plaintiffs.

The F. C. Eby Soap Company, of Detroit, Mich., has filed articles of a limited co-partnership, its capitalization placed at $5,000, with Frank C. Eby as president; Menno C. Eby, treasurer; L. J. Eby, secretary, and W. E. Cook, manager.

This is the Detroit concern that began business in a modest way about the first of the present year in the manufacture of a patented concentrated powdered ammonia for use in the household.

The Prouty-Bowler Soap Co. will erect a 22x132 foot addition and a new boiler house for its plant.

Willard, Son & Co., of Marshalltown, Iowa, who now have a rendering plant, are preparing to enter the manufacture of soap in order to work up their product.

F. W. Brown of the soap firm of Brown, Billings & Bucklin, of Rome, N. Y. (Rome Soap Mfg. Co.), has purchased the interest of the firm held by R. B. Billings and the latter has purchased of Mr. Brown his interest in the Utica Dyeing Co., in which Mr. Billings was previously interested. The Rome Soap firm will be conducted hereafter by Mr. Brown and L. O. Bucklin. Mr. Billings will devote his entire time to the Utica Dyeing Company.

The N. Y. Commercial Bulletin reports, under date of May 2d, that Colgate & Company contemplate the construction of an extensive soap factory in the vicinity of Mexico City.

New Orleans, May 14.—The arrival here from Africa of a cargo of sixty-one packages of cocoanut oil, intended for a soap manufacturing house, has upset the weighers and railroads, as the oil is put up in pipes, or wooden packages, of such size and weight that they cannot be weighed here or carried in ordinary cars. The smaller pipes, weighing 3,280 pounds, are easily handled, but the larger ones are too big for any railroad car.

Fire broke out in the soap factory operated by C. Rosenthal in the rear of his residence, at 840 Grandy avenue, Detroit, Mich. The building was a two-story frame and was almost totally destroyed.

We learn with pleasure that the Standard Soap Works of Berkley, now owned by Tillman & Bendel, are rapidly getting into working order. The office is at 113 Sacramento street, and D. F. Parker is the manager.

A fire occurred on May 18 at No. 5 Worth street, New York City. The building was occupied partly by the Procter & Gamble Co. as a store house, and a considerable loss of soap resulted.

The city of Moline, Ill., is negotiating for the establishment there of a soap factory. It is claimed that a large Chicago factory will move there in consequence.

J. Hines is engaging in the manufacture of nitro-glycerine in the vicinity of Harrisville, W. Va.

The Union Soap Works, of Wilkesbarre, Pa., which recently passed into the hands of a new company, is planning the erection of a new four-story brick factory. Frank Bauer, who originated the business about three years ago, will remain as manager.

The Dingman Soap Co., of Buffalo, and the Moulson Soap Works, of Rochester, have been combined into a single firm, under the name of the Puritan Soap Co., incorporated with a capital of $100,000. The officers of the new concern are: M. H. Olin, president; John C. Bertrand, vice-president and general manager; H. C. Green, secretary and treasurer. The business will be carried on at the address of the former Moulson factory, 500-504 Exchange street, Rochester. The Moulson company was one of the oldest in the business in Rochester.

The Proctor & Gamble Co. have purchased twenty-one acres of land in Armourdale (Kansas City), with the intention of erecting thereon a million dollar soap factory. The floor space of the works is to cover about eleven acres, and about 700 men are expected to be employed.

It is stated that the interest of the company in Kansas City was first enlisted through William Cooper Procter,

the general manager of the company, who is a director of the Mexico Orient railway. His father, William A. Procter, the president of the company, is also a heavy shareholder in the railway enterprise. The plans of the factory include also a cottonseed oil department.

Peet Bros., of Kansas City, Mo., are making arrangements for the erection, in Omaha, of a large rendering establishment. The plant, expected to be built this summer, is estimated to call for an expenditure of $125,000.

The Purity Soap Co., of Portland, Maine, has increased its capital stock from $100,000 to $500,000.

Buffalo, May 23.—According to statements made to delegates to the American Missionary Union, now in convention here, soap is the crying need of the Chinn Hills district of Burma.

"We need soap," said the Rev. E. H. East, a medical missionary of this district. "We can use tons of it. The people are disease ridden mainly because they never wash. I have washed the naked children and the hands and faces of the women. The women were astonished when they saw their children and themselves had pale complexions after washing. If some one will donate several tons of soap and the union will not pay the freight, I will pay it myself. We need soap more than anything else."

Frederiek Rawolle, of Marx & Rawolle, died on May 18, in his sixty-second year, as a result of pneumonia contracted five days before. He was born in a small town near Magdeburg, Germany, and came to this country in 1849. He became a civil engineer and as such was active in many parts of the country, even as far away as Peru, South America. In 1870 he formed the partnership with Mr. Marx, whose death occurred about a year and a half ago.

A widow and one son survive Mr. Rawolle.

The Markets.

TALLOW.—The market continues weaker, owing to liberal production and a disposition of buyers to wait. Last sales in New York of city make in hhds. reported at 5c; in tierces 5⅜c; Chicago sales of city rendered in tierces 4¾c; for prime packers 5⅜ to 5½c is asked.

GREASE.—Following the weakness of tallow, Yellow grease is offered at 4¾c; bone and house at 4¾ to 4⅞c.

COTTONSEED OIL.—Prime yellow sold in New York at 39¾ to 40c; off yellow offered at 38c.

COCOANUT OIL—Ceylon, 5½ to 5¾ asked for spot and 5⅜c for goods to arrive. Cochin, 6¼c asked for small lots and 5¾c for early arrivals.

CORN OIL.—4½ to 4¾c; as to quantity.

PALM OIL.—5½c asked for prime red and 5¾c for Lagos. Palm Kernel Oil held at 5⅜ to 5¾c for spot and about ¼c less for future arrivals.

OLIVE FOOTS.—6¼ to 6½c asked for spot; 6¼c for early arrival.

RED OIL—5c asked for saponified; with practically no demand.

Additions to Our Brand List.

Le Fameux 16
Le Fameux Rose de Seville 16
Le Fameux Violette de Sevill 16
Le Fameux Peau d'Espagne 16
Le Fameux Jockey Club 16
Sayf Syde. Sayf-Syde Soap Co., Cincinnati.
Wego 96
Hy-Lo 96
Royal Lily 16
Rose Immortelle 334
Violette Grandfleur 334
Heliotrope Ideal 334
Baby Mine 8
Crown Princess 337
Naptholive 340
Natural Gas 340
Peace 340
Ox Oil 340
Mox-Nix 340
Beef Oil 340
Sentry 340
Expert 286
Bunny—Hewitt Bros. Soap Co. Dayton, Ohio.
Solos Laundry, Nelson Mfg.Co., Iowa City, Iowa
Safeguard Carbo c 53
World's Wo k 53.
Marvelo, Natioval Process Co., Rochester, N Y.
Bell's Naphtha 343
Little Sweetheart 346
KaskaBouquet 346
Crystal Honey 346
May Field Bouquet 346
Elk's Bouquet 346
Milkina Skin 346
Old English Brown Windsor 346
Glycerated Tar 346
Amber Rose 346
Coa Nut 346
Beaumont's Shaving 346
Zo-Zo White Tar 346
Atoka 346
Red Raven 346
White Wonder 346
Uncle Sam's Floating 120

Announcement

We have bought the entire business, good will and patents of the old established firm of H. Wm. Dopp & Son, the management retiring. With increased facilities, and DOPP standard apparatus as a basis, we are in a position to supply your wants promptly
Write for new catalog and price list A.

H. W. DOPP CO. *1300-1310 Niagara St. BUFFALO, N. Y.*

SUPPLEMENTARY LIST
OF THE
BRANDS OF SOAP MANUFACTURED IN THE UNITED STATES
Including also the Brands of Foreign Manufacture Registered as Trade-Marks in this Country.

NOTE: This list is compiled with the greatest possible care, but the publisher does not assume any responsibility other than to correct and to complete the list according to data obtained from official sources or furnished by the trade. Brands registered in the patent office as trade-marks or labels are given with the name of the party registering same. Brands or names marked * are those which were found to be used by more than one firm or the owner of which could not be ascertained. ☞ SEE THAT ALL YOUR BRANDS ARE ENTERED IN YOUR NAME.

344 Home Soap Co., N.Y.
345 Columbia Ref'g. & M'f'g Co. Ltd., New Orleans.

Abrado, Floridine Mfg. Co., New York.
A Happy Home 4
Amazon Coco 337
Angelus 54
Antillia 2
Anty Up 340
Apple Blossom 337

Beauty Belle 115
Bell's Brown 343
Billy-Goat 340
Blue Chip 340
Blue C oud 2
Blue Coco 340
Blue Family 340
Blue Monday 340
Blue Olive 340

Calcutta Castile 337
Chlorine 340
Cleaneasy 286
Climax Chip 54
Cloth Pin 340
Cloths Pin 340
Credential Shaving Stick 16

Dactylis 11
Dermicura 327
Durango Best, Durango (Colo.) Soap Co.

Empress Eugenie 115
Empire Geranium 337
Eucryl Eucryl Ltd., Hull, England.
Evergreen 286

Facine 340
Fairbank's Primrose 2
" Scouring 2
" German Fam. 2
" Glycerine-Tar 2
" Mottled Germ'n
" Olive 2
" Navy Blue 2
Federal Family 1
Floral Feast 115
Flannel 2
Flip 345
Force, Cincinnati Soap Co., Cincinnati, Ohio.
Fragrant Honey 2
Frog 340

Gem Wash, Compound, Clara Pearce, Philadelphia.
Georgia Oleine 29
Geyser 343
Gloriola 29
Gold Seal Soap Flour 340
Goodhair, Goodhair Remedy Co., Newark, Ohio.
Green Olive Chip 340
Green Palm 340
Green Seal Chip 340
Gusher 340

Hard Maple 155
Helix 54
Hi Lo 96
Horse Oil Harness 340

Idyllwild 54
Ilo-Ilo 340
Iroquois Maiden 115

Jack & Jill 340
Jack Pot 340
Jewel 2

Kazan 343
Kimola, Bell Mg. Co., St. Louis, Mo.
King Solomon's Rock Oil S. Mnross Jenkins, N. Y.

Lakeside (Scouring) 2
La Mariposa 54
Lasco Napthol 54
Last Long 286.
La Virtho, John S. Nichols, New York.
Lemola Toilet, Lemola Soap Co., Los Angeles, Cal.
Lemolive 54
Lemonine, E. H. Kraut, Cincinnati.
Limberine, E. A. Warren, St. Paul, Minn.
Lion 2
Long Shot 345

Madeira 16
Madeira Almond Cream 16
Madeira Cucumber Cream 16
Madeira Lettuce Cream 16
Madeira Olive Cream 16
Marjorie 337
Marveline 300
Maxine Elliott 337
Mentholatum Corn Oil S. 169
Mexicano 54
Michigan Family 2
Mildred 337

Naphtha Toilet 340
Naphthal 340
Napthol 340
Next-To. Phoenix Chem'l Co. New York.
Nolabor 340
Noxlabor 340
Noxwork 340

Orinoco 337
Orris Unscented 337
Otis Lightning, C. H. Waterhouse, Essex, Conn.
Oxolive 340
Oxigen 340

Palmo 340
Palm Oil S. Powder 340
Palm Soap Flour 340
Parisian Toilet 54
Passion Rose 298
" Violet 298
" Pink 298
" Lily 298
Peach Blue 340
Peerless Country Club 337
Peerless Forest Violet 337
Peerless Lily of the Valley 337
Peerless New Mown Hay 337
Pen Yen 340
Perfecto 121
Plantol Lever Bros., Limited Port Sunlight, England.
Pony Up 340
Premium, Davenport (Iowa) Soap Co.
Premium W. Powder, Davenport (Iowa) Soap Co.
Preventionette, Willard Chemical Co., Malden, Mass.

Quick and Easy 56

Rex Cremo 340
Rex Family 340
Rex Liquid Soap 340
Rexolene 340
Rexolive 340
Rockford Scouring 2
Rubbo, Lever Bros., Limited, England.

Sani-Tari Skin, Citizens Wholesale Supply Co., Columbus, O.
Santa Rex Castile 2
Savon Carnation 337
Savon Heliotrope 337
Savon Lilac 337
Savon Queen Regent 337
Savon Quo Vadis 337
Savon Rose Marechal Niel 337
Savoy Alpine Violet 337
Savoy Carnation 337
Savoy Jockey Club 337
Savoy Primrose 337
Sentinel 340
Sorosis 340
Stainoff, D. M. Steward Chattanooga.
Stainilgo, Kendall-Davis Co., Boston, Mass.
Star Mottled 2
Success Scouring Sand Soap Tacony Soap Co., Phil'a.
Sweet Blossom 2

Tcw-Fer 96
Tode 340
Toula Toula 334
Trash Mover 286
Twin 2
Two Jacks 340

Vestal Carnation 16
Vestal Lilac 16
Violet de Parme 337

White Fairy 2
White Pine Castile 344
Windsor 2
Winner 29
World's Fair 2

Yellow Dog 340
Yellow Palm 340

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A MONTHLY JOURNAL OF THE MANUFACTURING CHEMICAL INDUSTRIES.

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Communications on industrial subjects, news items, and any information suitable for printing in these columns, are solicited and will have due attention.

Readers in search of machinery, supplies etc., not advertised in these columns, are invited to write us and we shall endeavor to supply the information.

Address all communications to

DR. HENRY GATHMANN, Publisher,
2707 NORTH AVENUE,
MILWAUKEE, WIS., U. S. A.

An English firm recently put on the market a washing machine which it called with much coolness the "Phels-Naphtha Washing Machine." This coolness probably has since changed to chilliness, for Fels & Co. obtained an injunction against the party.

Pierce & Warrick of London have obtained a patent on placing a strongly perfumed body of some kind into the interior of soap cakes. The perfume is intended to permeate the cake and thereby furnish a more economical method than the ordinary way of perfuming soaps.

We have heard of soaps having been perfumed (?) by wiping the scent on the outside of the cakes and here now we have come to the opposite extreme.

We read in a daily paper that a certain soap factory will erect a still house for rendering cottonseed oil. There seems no end to new improvements.

The article on linseed oil soaps, on another page of this paper, refers to railroad car-cleaning, and that reminds us to say that soft soap (whether linseed or other) certainly seems to be preferred for cleaning cars and stations. The Reading Railroad Company has at Reading, Pa., a small building near its store house where it makes its own soft soap and ships it to many points along its line in goodly quantities.

(Soft soap has been made in this country for years and years, though it met with much popular prejudice right along. It is hardly fair for a comparatively recent manufacturer of it to refer to others as "imitators.")

And speaking of a railroad making its own soap reminds us to say that we have on our subscription list hospitals in various parts of the country, a penitentiary, some textile manufacturers, and a number of other odd places where not every one would suspect the presence of a soap kettle. Not only that, but according to newspaper reports the manufacture of home-made soaps from grease saved at home is coming into vogue again, and the fair sex in Massachusetts particularly is said to be enthusiastically trying to see who can make the best soap. And it is rather "soft" soap, too, in most instances.

On the occasion of winding up the business of a toilet specialty house which failed recently in Ohio, the judge remarked:

"This was a corporation formed for the purpose of beautifying the females of the community with a powder or lotion warranted to remove tan, freckles, black-heads and such like blemishes from the natural body and restore to cheeks faded with age and yellow with jaundice, the bloom and blushes of youth. In the malarial districts of Indiana and Illinois, or the swamps of Florida, or the sewerless city of New Orleans, where the sour complexion microbe flourishes, and malaria, yellow fever and old-fashioned ague have long since celebrated the golden jubilee of their reign, the company might have succeeded. But among the beauties of the Miami valley, where rose-tinted cheeks, nourished by the pure air and pure water and rich products of this garden of the Lord any complexion company would be doomed to failure from the beginning."

Do the beauties of the Miami valley vote?

Officially, so to speak, the AMERICAN SOAP JOURNAL can know nothing of garbage grease. But a description of its manufacture was contained in a Providence paper recently and we reprint the same on another page for what it may be worth, without comment.

A barber of Providence, R. I., recently brought suit against a soap manufacturer, claiming that he had been furnished soap with an excess of alkali, and that he lost his trade in consequence. The suit was decided against him.

We are sorry for the barber, but if he had won, what a dangerous precedent it would have been! Just think, every laundry that now delights in eating up your clothes could hereafter have had not only its fill as now but stimulate its unholy appetite by occasional damage suits against the hapless soap manufacturer who furnished soap to the laundry.

No, that barber had to lose the suit.

We have had no direct complaint ourselves, but learn that there is an increasing number of instances where express charges are collected from consignees on packages that had been sent prepaid. The item is usually too small to be either noticed at the time or reclaimed later, but when occurring repeatedly it is apt to be annoying and even to lead to unpleasantness. Shippers are advised to very plainly mark both the package and their shipping book, with the word "Prepaid."

Soap Manufacturing In Cuba.

HABANA, May 28, 1903,

Dear Dr. Gathmann:

On May 20 was the first anniversary of the Cuban Republic, and it was celebrated in a very quiet, orderly, and patriotic manner, without any rowdyism, for the Cubans to a man are proud of their independence. They began to govern themselves a year ago with a little over $600,000 in the treasury and after one year's self-government had over $3,200,000 in said treasury.

Life is expensive in Cuba and labor is at a high figure. Mechanics get from $4 to $5 per day, and laborers are well paid in proportion.

As to the soap trade, which interests your readers, the latter need not come here to show local manufacturers how to do business; in fact, it is said that the leading firm of soap manufacturers here—said to sell 10,000 boxes of 100 lbs. each per month—is going to smash everybody else here, and as they have raised the price of tallow $1.00 and reduced the price of soap 50 cents, it certainly looks as if they meant business and as if there would be something doing with one cent more for tallow and one-half cent less for soap.

Even in the United States a factory selling a million pounds of soap a month would not be called a small concern, and for Cuba with its 1,500,000 inhabitants, it is enormous and would at first sight appear well able to carry everything before it in the soap line.

It is roughly estimated that the Spanish brand of soap "Rocamora" sells here to the extent of 15,000 boxes per month for the whole island and it sells much dearer than the local soaps: but the sellers have had to drop prices also lately, and it is only a matter of more or less time when it will be driven out of the market, though certainly the utmost will be done to hold on as long as possible.

So this is at present no place for American or any other soap manufacturers to come and make money out of soaps, as under present conditions in Cuba money is bound to be lost.

The small manufacturers must either stop or loose money, and it will be a question how long they can stand to loose.

Rocamora soap is preferred not only in Cuba but in all South American states, simply because it contains a principle which local or American soaps do not contain. On landing, this soap is very soft—as soft as mud—and still it sells at fully 25 per cent. more than local or American soaps which are firm and hard.

The washerwoman in Cuba and other South American states are not as patriotic as to buy soaps requiring an enormous amount of rubbing to get their clothes clean. They buy Rocamora soap, soft as it is, because it cleanses

quickly and well. In the Philippines the same conditions prevail.

I remain, Yours sincerely,

A. D'ESTAMPES.

The Purification of Waste Liquors.

BY B. FAIR.

Among those who have made a study of the purification of different waste waters from various industries, it has been well known for some time that certain chemical compounds possess not only the power of precipitating organic impurities, both in solution as well as in suspension, but at the same time preserving the resulting precipitate from further putrefaction and in this manner protecting the purified liquid from again becoming contaminated by remaining in contact with the precipitated impurities until the purified liquid and impurities can be separated, either by a settling or filtration process. It is evident that this property is of the utmost importance in water purification plants.

I offer you this article for publication feeling convinced that many of the readers of your JOURNAL are directly, while others may be indirectly, interested to learn of the numerous applications of this process of purifying and obtaining valuable by-products from various waste liquors; the treatment of spent lye from soap works will no doubt interest your readers in particular. Much research work has been of late years applied to this subject. Many of the chemicals used proved only superficially effective. Recently I procured a sample of a compound ("Ferriton") which from the nature of its ingredients I knew was admirably adapted for purifying water intended for domestic purposes. I made tests on waters that were considered particularly well suited for domestic consumption and found, as I had expected, that the addition of a small quantity of this compound produced a precipitate which settled very rapidly and that the precipitate was much more copious than with the usual reagents. I then tried its effect upon spent lye from a soap works with such a favorable result, that I immediately recommended this compound to my clients. Now, I notice, that the material is advertised in your JOURNAL for purifying spent lye from soap works. The precipitate, when dried, contained about three-quarter per cent. of ammonia, a quantity hardly sufficient to warrant saving the filter cakes as fertilizer material. The ammonia developed from the albuminous matter while boiling with alkali in the process of soap making had already escaped with the steam. If the glycerine-containing liquor had been obtained by separating the glycerine before saponifying with alkali, a large portion of the nitrogenous matter would probably be found in the filter cake after such liquor has been treated with this compound "Ferriton," and the filter cake will then likely have a certain value as fertilizer material. In treating glycerine liquor resulting from the decomposition of the stock, the trace of emulsified fat always present in the liquor should first be neutralized with alkali before the compound is added.

The time will come when the laws protecting our streams from pollution will be as strictly enforced as they are at present in a number of the best governed European countries from a sanitary standpoint. Distillers, brewers, tanners, sugar refiners, abattoirs, etc., etc., will no longer be permitted to run their waste liquors into the streams. Finally, the waste water passing through the sewers in some of our large cities will have to be collected and freed from the putrefying ingredients. The precipitate from the waste water from all the above named sources becomes valuable as fertilzing material on account of the nitrogen and phosphoric acid which it contains. Of course, not all these waste waters contain phosphoric acid. In treating these waste waters, it is very essential that the reagent used should form a precipitate in which further putrefaction of the organic matter is arrested. This property is particularly valuable in applying the reagent to water intended to be purified for domestic purposes, for it is evident that if the precipitate were to undergo decomposition, the water would again become more or less polluted while the precipitate is settling.

The Naval Stores Situation.

JACKSONVILLE, Fla., June 27, 1903.

Dear Dr. Gathmann:

Every day I am expecting a copy of the "Journal of the House," but it is not finished to print yet. "We are beaten, but fallen with colors flying."

The fight will be resumed, or rather, will not cease, and it is now up to the consumers of naval stores whether they want to be robbed of the industry in this country or not. The situation is very serious, indeed, and you shall have a comprehensive contribution from me for your issue of August. In haste, Cordially,

E. MOULIE.

Linseed Oil Soap.

The American Linseed Company has published a pamphlet setting forth the advantages claimed by this firm for its linseed oil soap, and incidentally giving an undeserved jab or two to other soaps. Some of the pages are interesting reading, although—and perhaps just because—few soap makers would agree with many of the claims made. We select the following passages for the benefit of our readers:

Soap is a combination of grease and alkali.

There are many greases and several alkalies. Hence, there are more than a few soaps.

A soap is good according to its constituent parts and the work they have to do. Generally speaking, the best soap is that which cleanses readily without damaging the material cleansed.

To scrub a sidewalk, what is needed is abrasive power—the best soap is sand. For kitchen tinware, also, alkalinity is unimportant—excepting to " cut" the grease from cooking—and scouring bars or soap powders may be largely used. These materials are not, properly speaking, soaps, but act mechanically by scraping and tearing the dirt off, not chemically, as a good soap does. They may be considered to belong to the lowest grade of cleansers.

The next grade is the common bar soap. Theoretically, there is no objection to the use of bar soap. Practically, there is great objection. The foulest refuse grease is generally used in its manufacture, in combination with cheap, impure alkalies. The charnel-house odor is disguised by inexpensive and dangerous perfumes. No skill is required in making such soaps. Their composition varies widely. They are, consequently, of uncertain cleansing power, and are often harmful to the surfaces and fabrics on which they are used.

Further progress in the soap industry developed the "oil soap," made of vegetable oil. This offers a product far superior to bars or powders, if intelligently used. In England and on the Continent, oil soap is the rule, and bar soap the exception, with all well regulated households. We on this side of the water are only now learning to appreciate the superior merits of soft oil soap. The objection to oil soaps in the past has been the irregularity in their composition. The saponification of vegetable oil is a process of great complexity, requiring a high degree of skill. The success of linseed oil soap when first put on the market, some years ago, has stimulated a large amount of pretended competition. So-called oil soaps are offered at prices that are conclusive evidence that no pure vegetable oil is used in the making of them. These soaps are adroitly given the appearance of linseed oil soap. The resemblance ends there. The consumer either gives up the use of oil soap in disgust, or, if his experience with bars and powders has been unsatisfactory, gets along with an oil soap that everybody knows is inferior and unreliable.

The objections to so-called oil soaps do not apply to a soap made of linseed oil. Its merits are peculiarly its own and cannot be imitated.

Linseed oil is saponified only with extreme difficulty. The soap must be made with extraordinary care. It is almost a "neutral soap." In a slightly modified form, linseed oil makes the "green soap" sold by apothecaries.

Every one knows that linseed oil is the basis of paints and varnishes. Linseed oil soap is therefore, the best soap to use on painted or varnished woodwork.

In the nature of things, linseed oil soap must be pure. Pure linseed, unlike many other vegetable oils, does not become rancid with age. Linseed oil soap is a permanent soap of uniform quality. *It cleans things.* It harms nothing. It contains no "filler."

The American Linseed Company's pure linseed oil soap is made from pure, new process linseed oil, manufactured by percolation, not by pressure, and contains potash alkalies only. The soap is first made neutral by our special process and then made slightly alkaline according to the service proposed. No other oil, fat or grease than fresh linseed oil is used in its manufacture. The soap is readily saponifiable in salt water. It weighs 9 pounds per U. S. gallon.

"The soap shall be made from pure, new process linseed oil and the necessary potash alkalies only, and must be entirely soluble in either salt or fresh water. It must make a good lather in using and shall be *free from fillers.* The percentage of free alkali shall not exceed 0.50; of salt, 0.10; of *mineral matter,* 0.10; of water, 55.00; the balance to be a neutral combination of linseed oil and alkali, perfectly saponified. It shall weigh between 8.6 and 9.3 lbs. avoirdupois per United States standard gallon."

(The above specification is modeled after that of the standard specification of the Bureau of Supplies and Accounts of the United States Navy, with these differences: We allow only 1-5 the percentage of mineral adulteration and 1-30 the percentage of salt that the Navy Department has fixed as the minimum practicable.)

Two things measure the value of a soap. First, the amount of work that a dollar's worth of the material and the labor to use it will do. Second, the amount of damage to the thing cleaned it will do. Subtract the latter from the former and the result expresses the quality of the soap. Tested in this way, we guarantee that a dollar invested in linseed oil soap will give a larger net return than a dollar invested in any other cleansing material known.

The theory of linseed oil soap, for car cleaning is thoroughly set forth in the extract quoted on the next page from an article by Mr. John Carson in the Painters' Magazine for November, 1902. Mr. Carson puts the matter in a nutshell. We have only to add that the railroads in this country that are known for their clear and bright looking rolling stock are the roads using linseed oil soap for cleaning their cars. Their paint shop records as well demonstrate that they are saving money since they began the use of the soap. A car scrubbed with linseed oil soap will run three years without repainting, while one cleaned with the powders and alkaline solutions formerly used is done for in one season.

DIRECTIONS FOR USE.

For shop or terminal cleaning, where cars are very

dirty, use one pound of soap to from three to four gallons of water, applying with a brush or cotton waste. A bright luster can be obtained by letting the surface dry and then rubbing with dry waste or chamois. For ordinary service cleaning (where linseed oil soap has been regularly used), dissolve the same quantity of soap in from five to seven gallons of hot water. The quantity of water can be doubled for fairly clean cars. Always make the solution with hot water.

CLEANING PASSENGER COACHES.

"Within recent years it has been possible, through the medium of oil soap, to do away very largely, if not wholly, with the old style easily adulterated soap.

"The oil soap furnished in a semi-paste form is practically a neutral soap, or as near to that as it is possible for the most scientific system of soap-making to produce. It is the least deleterious of all soaps intended for railway equipment cleaning pleasant to handle and effective when used in connection with the proper agencies. Such agencies consist of No. 1½ pulverized pumice stone, stiff scrubbing brushes, curled hair, soft pieces of wood to work around corners, etc., plenty of water and, last, laborers who are painstaking and competent. As a rule 15 pounds of oil soap may be dissolved in warm water, then enough cold water added to make, say 50 gallons of soap. By using this soap upon car exteriors, in connection with pumice stone, a good amount of surfacing, smoothing up, and removal of dirt motes and nibs is accomplished. In contrast to this, the caustic soda, potash and lye concoctions simply whip off the dirt, without giving any least measure of surfacing results. The importance of this advantage in favor of the oil soap will at once manifest itself to the foreman painter who is looking for a certain nicety of surface along with excellence of general appearance."—John Carson.

FOOTS.

Foots is the sediment removed from linseed oil by settling and filtration. The clearness and quality of the oil depends upon the thorough removal of foots. As the American Linseed Company manufactures pure linseed oil only, it has a large quantity of foots to dispose of. If we had no regard for our reputation in the oil soap business we might very easily use these foots in the manufacture of soap. We do not use them. This anyone can see for himself by noticing the clearness (transparency) of our soap. Compare it with any other so-called "oil soap" and see.

We consequently sell our foots. Large foundries, especially those making heavy castings, use them in making cores. They tell us that foots form an economical material for this purpose. They are also used by some paint grinders. We sell them to some of the leading people in both these fields.

Soap Factories In South America.

We have had quite a number of inquiries which we have replied to by post as to whether there are in South Africa opportunities for developing the soap industry with any prospect of success. The answer invariably given has been that there are difficulties there which are not easy to surmount under existing circumstances, and that the principal one of these is that of obtaining adequate supplies of raw material. We notice that in our contemporary the British and South African Export Gazette a correspondent puts an inquiry over the initials "S. B. F., London, N." He says, "I am going out to South Africa in order to erect a soap works, and shall be glad if you will advise me which is the best center in which to make a start. Will you also inform me where I can locally procure tallow, or failing this, give me the name of a home exporter. Information regarding the customs tariff for soap, tallow, etc., existing between the several colonies will be acceptable." The following is the reply of the British and South African Export Gazette, which we give with the simple observation that we are not to be taken as concurring in the views it expresses: "A few soap factories already exist in the Cape Colony and Natal, but there are, doubtless, openings for fresh ventures. Ample local supplies, or imported, are available at all the ports, and no difficulty should be experienced in getting what is wanted; all that is needed is to apply to coast merchants. On this side, application might be made to the United Alkali Company, Ltd., St. Helens, or any exporter of tallow. As a revision of the tariffs ruling in the several colonies has just been made, it would be advisable to await its publication."—*Oils, Colors and Drysalters.*

Garbage Grease and Soap.

(From the Providence *Journal.*)

Imagine an enormous machine, into one end of which garbage flows, while out of the other end drop cakes of soap. Is it impossible to imagine a machine like that? Nevertheless one works briskly all through the year in New York, another in Philadelphia and a third in Boston.

Into one of these machines flow annually over 900,000 tons of garbage; out of the other end fall annually thousands of delicate, inviting cakes of soap.

The American Product Company conducts the business of all this garbage converting. It has four plants—two for Greater New York, besides one apiece for Philadelphia and Boston—and it is soon to have a fifth plant in Baltimore. No doubt, before many years, the American Product Company will have plants in all the cities of the United States, for this organization has a monopoly in garbage converting. It controls the Arnold converting

system, the only system that is at once practicable and profitable. .

There follows a description of a garbage converting plant, the Philadelphia one. This plant has not, literally, a vast machine that takes in garbage at one end and discharges soap at the other—American mechanical ingenuity has not advanced to that point yet—but practically it has such a machine, for, through its processes, garbage becomes soap.

The Philadelphia plant is on the east bank of the Schuylkill River, in a southern outskirt of the city. There is no other building within a quarter mile of it, though there might be, for this plant, incredible though the statement may seem, pollutes the air with no foul smoke or odors, though it cooks annually 300,000 tons of garbage.

It is a massive and clean-looking building of brick, low, huge with a number of very tall smokestacks looming black against the sky. The garbage comes to it by water in scows and by land in carts. The plant employs 50 men, and the odor inside a little like caramel, a little like licorice.

The garbage that arrives in scows—the most of it arrives that way—passes directly from the scows to the boilers that cook it. It makes this passage in conveyors. The conveyors consist of steel troughs that run, like little railways, to the tanks, with an endless chain arrangement of small hoes, or hands, working above them. The garbage enters the steel roadways: the hands, set about two feet apart, push it onward and onward to the tanks.

It travels in this manner very swiftly and evenly, and, as it moves along, men stand beside its troughs, and pick out the tin cans, the old shoes, the iron pots and other things that will not boil down.

The great tanks the garbage is boiled in are called digesters. Each of them holds 10 tons. Each is an upright cylinder of steel, 16 feet in height and 5½ feet in diameter. In long and impressive rows these tanks stand, elevated above the cement floor, numbering 60 in all. They can be charged twice a day. Thus the capacity of the plant is 1,200 tons of garbage daily.

The conveyors end at sliding doors in the tops of the tanks. Each conveyor dumps its garbage into the tanks directly. There is no necessity for men to handle the unpleasant stuff.

The boiling lasts five hours. There is one in the morning and one in the afternoon. Nothing is mixed w ith the garbage in these boilings save about three feet of water in the bottom of each tank.

At the end of fixe hours, the garbage has changed greatly in appearance. It is now a homogeneous mass of dark brown stuff, with a sweetish, licorice-like odor. A valve is opened in each tank, and the cooked garbage falls into receivers—14 feet long and 6 feet deep—that lie under each tank's tapering base.

The receivers have bottoms that slant toward the middle, and in the middle there is a hole. Thus, as the cooked garbage lies cooling, a great part of the liquid in it runs out through the holes, falling into other tanks beneath.

The solid matter is taken up by another line of conveyors, and emptied into steel presses of great power. The presses have a strength of 100 pounds to the square inch. They stand side by side, and under each of them there is a tank.

After they have been charged, their pressure of 100 pounds is put upon the garbage and this pressure is kept up just as long as the garbage continues to emit liquid. It emits liquid for a long time. Amazing are the quantities of rich, thick, black fluid that flows from the presses into the tanks under them.

There are now two kinds of liquid that the garbage has yielded under pressure. These liquids have a considerable quantity of grease in them, and, as they cool, the grease separates from the water, and can be gathered in great black lumps as big as the body of a man. These lumps are thrown into a tank. After their gathering the water still continues to yield grease. It may be skimmed a great many times, the grease collecting like cream, in a crust on its surface. When it will yield no more, it is thrown away.

As for the solid part of the garbage it is made into fertilizer and fuel. After it has given forth all its grease it has a tobacco-brown color: it is wet, and it is full of lumps. Cars take it automatically from the presses and carry it to a drying room. The dryers are horizontal steel cylinders, and in them the tankage—for the solid garbage now has that name—is stirred and broken up by revolving metal fans while it dries. At the end of this process it runs forth upon conveyors to the screens.

The screens are rotary and the screened tankage that falls through them is an even, lumpless, light substance, of a paler tobacco-brown hue than before—a substance that resembles the tobacco, cut in long shreds, from which cigarettes are made. It is used for fertilizer and sells readily, being an excellent thing for the soil. As for the tailings or coarser tankage that will not fall through the screens' interstices, they are used for fuel. They, indeed, supply the power which runs the plant.

To return now to the grease. In its tanks it is boiled, the sediment it deposits is drawn off and it is boiled again. In this manner it is refined. It becomes at length a black oil, thick but freely running—a clean oil, smooth, without odor.

The number of gallons of oil that a ton of garbage will yield the American Product Company declines to state. It will only say that winter garbage is richer in

oil than summer garbage, though in the summer there is five times as much garbage as in cold weather. This increase is occasioned by refuse that yields no oil—watermelon rinds, cantcloupe skins, corn husks, etc.

Black garbage oil is practically refined soap fat. The process of its development into soap differs little from such processes as they are conducted in any soap factory, only cheap, colored soaps are made from the oil, which on account of its dark color, will not make white soap.

Soap is a mixture of a fat and an alkali. Everyone knows how a fat—butter, for instance—applied to the hands, makes them slippery, just as soap does, but gives no lather, and will not readily rinse off. The application of an alkali to this fat gives it life and effercescence—causes it to saponify—causes it to make a lather and to rinse off easily—changes it, in a word, to soap.

Soap is made of all sorts of oils and fats, combined with the alkali of caustic soda or caustic potash. So garbage soap is made. The garbage oil is put in a pan about 10 feet deep and 10 feet in diameter—a pan that holds about 40,000 pounds, and with it an alkali and certain fats are mixed. These substances—tallow, grease, cocoa oil, linseed oil, etc.—are all thoroughly refined, and the garbage oil is thoroughly refined, too. One, in fact, is no cleaner, no more wholesome than the other. Soap made of garbage oil is as good as any other soap in the world.

The oil and fat and alkali boil in the pan and cool and boil again for a week. Three or four days it is cooling. When it is done—and only the soap-maker, a skilled and high-salaried man, can tell when it is done—it is pumped into crotching machines, and cooled by means of jackets of running water. The crotching machines are iron cylinders above five feet high, and their jackets, set close to the soap, are coils of pipe through which cold water flows swiftly. The soap is hardened, dried, cut, pressed, stamped and put upon the market.

The American Product Company does not make soap itself. It sells its oil to brokers who sell it in their turn to soap manufacturers. Some of the oil is used in America, but the greater part of it goes to Germany. The Germans make from it soap and glycerine.

The Duty On Talc.

The collector at the port of New York has received new instructions from the Treasury Department regarding the long contended question of the duty on imported talc as follows:

"Referring to your report of April 7 last, in the matter of the proper classification of the so-called 'ground talc,' heretofore held by the United States Court of Appeals for the Second Circuit, in the case of the United States vs. Gabriel & Schall, to be properly dutiable at 20 per centum ad valorem under Section 6 of the act of July 24, 1897, I have to advise you that upon further investigation in this matter the department is informed that the terms 'ground talc' and 'French chalk' are in fact synonymous in commerce, and that therefore duties should be assessed thereon at the rate of one cent per pound under paragraph 13 of the tariff act of July 24, 1897.

"In order that another case may be prepared for the consideration of the courts and an opportunity afforded for the presentation of trade testimony in support of the government's contention, you are hereby directed to disregard the instructions of March 15, 1901, and to classify ground talc as dutiable under the enumeration for 'French chalk,' as appearing in paragraph 13 of the act of July 24, 1897.

"In this connection I inclose for your consideration a report of Albert H. Washburn, counsel for the Treasury Department before the Board of General Appraisers, dated the 1st instant, pertaining to this subject, showing the result of recent investigations made by him in regard to the commercial designation of ground talc."

Turpentining.

According to news from Washington (in which we, for the present, ignore the credit given to Dr. Herty, apparently unjustly), the turpentine industry is receiving the benefit of a discovery by Dr. Charles H. Herty, an expert of the Bureau of Forestry, the importance of which may be realized by the enormous gain in profits it secures for the turpentine operator. By a new method of tapping trees called the cup-and-gutter system, Dr. Herty has secured an increase over the old method of 23 per cent. of turpentine, besides uniformly high grades of rosin.

The demonstration of this increase is based on careful and elaborate experiments conducted by Dr. Herty at Ocilla, Ga. One-half of a first, a second, a third, and a fourth-year crop was managed by the box system, the other half by the new cup-and-gutter system. Every effort was made to have the conditions in the two divisions exactly similar and to make the comparison a just one. The increased output of 23 per cent. secured by the cup-and-gutter system during the season of 1902 is guaranteed by Dr. Herty as being absolutely reliable for the turpentine orchard at Ocilla, Ga., and he believes there is no reason for not accepting it as representative of the increase that may be secured by this system throughout the turpentine belt.

The experiments of 1902 showed the following gains of the cup-and-gutter box over the box system on a basis of one crop:

First year	$412 54
Second year	341 54
Third year	513 38
Fourth year	516 48

So striking and significant were the results of the Ocilla experiments that turpentine operators have eagerly seized upon the discovery, and all over the south the new method is supplanting the old. Dr. Herty has been constantly in the field this spring, installing the equipment of the new system under the direction of the Bureau of Forestry. Up to the present 345,000 cups have been installed by the following operators: Baxter & Co., Fargo, Ga., 12,000 cups; Florida Tie and Lumber Co., Middleburg, Fla., 21,000 cups; East Coast Lumber Co., Watertown, Fla., 31,000 cups; Powell, Bullard & Co. Ocilla, Ga., 40,000 cups; E. L. Vickers & Co., Adel, Ga., 15,000 cups; J. T. Hunt & Co., Ashburn, Ga., 21,000 cups; J. C. McCaskill & Co., Bainbridge, Ga., 21,000 cups; J. H. Tallevast & Co., Braidentown, Fla., 10,000 cups; D. M. Deen & Co., Onega, Fla., 30,000 cups; H. H. Elarbee & Co., Elarbee, Fla., 21,000 cups; Bay Naval Stores Co., Bay St. Louis, Miss., 10,000 cups; A. Sessoms, Bonifay, Fla., 26,000 cups; Johnson, Cromarite & Co. Altoona, Fla., 21,000 cups; Nixen Lucas, Wedowee, Ala., 21,000 cups; P. H. Baker, Campville, Fla., 1,000 cups; R. B. Lutterloh, Tallahassee, Fla., 1,000; The Ellis-Young Company, Savannah, Ga., 20,000 cups; E. N. Fry, Stockton, Ga., 1,000 cups; W. C. Alvord & Co., Cottondale, Fla., 3,000 cups.

The unbroken forest of longleaf pine that once extended from Southern Virginia through the South Atlantic and the Gulf States to Eastern Texas has been greatly depleted. More than half the original forest has been exhausted; and conservative turpentine operators estimate a standing supply of virgin timber sufficient only for fifteen years of box cutting. The indifference with which this destructive method was everywhere once regarded has been succeeded by a conviction that something must be done for the turpentine industry, that some method must be found of extracting turpentine which will not prevent similar continued operations on the same trees. The present method of boxing is needlessly wasteful of the products and needlessly harmful to the forests. A "box" or cup like cavity is cut in the base of the tree to receive the resin which flows from the scarified face above. The box itself does not contribute any additional flow of resin; on the contrary the deep cut, by weakening the vitality of the tree, really lessens the flow. It is an unnecessary wound, inflicted in the most vital part of the tree, reducing its vigor, lessening its power to stand against the wind exposing it to the attacks of disease, and furnishing an unnecessarily large amount of exposed inflammable material to feed the next fire that burns over the forest.

The future of the forest that has been heavily turpentined by the box system is speedy decay and death.

The cup-and-gutter system is fully described in Bulletin 40, entitled "A New Method of Turpentine Orcharding," just issued by the Bureau of Forestry, and by Circular 24, which was sent out to turpentine operators several weeks ago. Briefly, the equipment consists of an earthen cup attached to the tree beneath its scarified face and serving to catch the resin which drips from the two galvanized gutters above. The earthen cup takes the place of the injurious box, or hole cut in the tree, but the new system may be applied to boxed as well as to unboxed timber.

The cup-and-gutter system works to great advantage both for the turpentine operator and the owner of timberlands. It assures the farmer an immediate increased profit at very little additional expense, and benefits the latter by inflicting the least possible damage to his timber. The new system has many additional advantages. No change is necessary in the labor of cutting faces on the trees, in which the negroes of the turpentine belt are especially skillful. The placing of the equipment which is extremely simple in construction and may be fitted to trees of all sizes, is easily done by the regular turpentine laborer. It is held so firmly in place as not easily to be destroyed by accident, and yet it may be easily and cheaply removed at the end of the season.

Turpentine operators and timberland owners who have seen the results of the cup-and-gutter system are enthusiastic about it. It means much for the turpentine industry; must also for the owners of southern pine lands, who have seen their fine timber land laid waste by the destructive boxing. A method of turpentining that inflicts so little damage on the trees is a most important factor in the problem of preserving southern timber lands, and as such it marks another advance in the progress of forestry.

Colonial Import Duties.

(Compiled by the Oil and Colorman's Journal.)

GREASE.

India.—All kinds. 5 per cent. ad val.

Straits Settlements.—All kinds. Free.

Ceylon.—All kinds. Free.

Mauritius.—Tallow. R. 1.12 cents per cwt., and 4 per cent. on duty.

Cart-grease. R. 0.56 cents per cwt., and 4 per cent. on duty.

All other grease. 10 per cent. ad val., and 4 per cent. on duty.

Seychelles.—All kinds. 15 per cent. ad val.

Labuan.—All kinds. Free.

Hong Kong.—All kinds. Free.

Australia.*—Stearine. ½d. per lb.
Axle grease; also thickened or solidified oils; solid or viscous compounds for lubricating, and tallow unrefined, in packages not exceeding 4 lbs. in weight. 4s. per cwt.
All other kinds. 2s. per cwt.
New Zealand.—Axle and other solid lubricants. 20 per cent. ad val.
Tallow. Free.
Stearine: For match-making. 7s. per cwt.
Ditto, for other purposes. 14s. per cwt.
Fiji.—Vaseline. 2d per lb.
All other grease. 2s. 6d. per cwt.
Falkland Islands.—All kinds. Free.
Cape of Good Hope.—Tallow and substitutes, including prime fat for soap-making, and stearine fat: For consumption or use in the colony or any other part of the South African Customs Union. 4s. 2d. per 100 lbs.
Ditto, in transit to places *outside* the South African Customs Union. 3 per cent. ad val.
Other animal fats: For consumption or use in the Colony or any other part of the South African Customs Union. 2d. per lb.
Ditto, in transit to places *outside* the South African Customs Union. 3 per cent. ad val.
All other grease ,including anti-friction grease: For consumption or use in the Colony or any other part of the South African Customs Union. 7½ per cent. ad val.
Ditto, in transit to places *outside* the South African Customs Union. 3 per cent. ad val.
Natal and Orange River Colony.—Same tariff as for Cape of Good Hope.
Transvaal.—All kinds. 7½ per cent. ad. val., and transit duty 3 per cent.
St. Helena.—All kinds. Free.
Lagos.—All kinds. 10 per cent. ad val.
Gold Coast (West of the Volta).—All kinds. 10 per cent. ad val.
Gold Coast (East of the Volta).—Tallow. Free.
All other grease. 4 per cent. ad val.
Sierra Leone.—All kinds. 10 per cent. ad val.
Gambia.—All kinds. 5 per cent. ad val.
North America (Dominion of Canada).—Foot-grease, being the refuse of cottonseed after the oil has been pressed out but not treated with alkalies; also grease, rough, the refuse of animal fat for the manufacture of soap and oils exclusively. Free.
Oleo-stearine and degras. Free.
Other stearine (animal). 8s. 2.67d.† per 100 lbs.
Axle grease. 25 per cent. ad val.†
Tallow. 20 per cent. ad val.†
Vaseline. 35 per cent. ad val.†
North America (Newfoundland).—Tallow and grease (except axle grease.) 15 per cent. ad val.
Axle grease. 25 per cent. ad val.
Stearine and vaseline. 30 per cent. ad val.
Ingredients for use in the manufacture of butterine, oleomargarine, etc. Free.
Bermuda.—All kinds. 5 per cent. ad val.
British Honduras.—All kinds. 10 per cent. ad val.
Bahamas.—Tallow. Free.
Turk's and Caicos Islands.—All kinds. Free.
Jamaica.—Products of petroleum. 7½d. per gal.
All other grease. 16⅔ per cent. ad val.
St. Lucia.—Tallow. 2s. 6d. per 100 lbs.
St. Vincent.—Tallow; mill and cart-grease. 4s 8d. per cwt., and 10 per cent on duty.
Barbados.—Tallow. 2s. per 100 lbs.
Grenada.—Tallow. 4s. per 100 lbs.
Virgin Islands.—Tallow, coomb, axle or machine grease. 4s. 2d. per 100 lbs.
St. Christopher and Nevis.—All kinds. 10 per cent. ad val., and 10 per cent .on duty.
Antigua.—All kinds. 10 per cent. ad val., and 33⅓ per cent on duty.
Montserrat.—All kinds. 10 per cent. ad val., and 33⅓ per cent. on duty.
Dominica.—Tallow, coomb, axle or machine grease, 4s. 2d. per 100 lbs.
Trinidad and Tobago.—All kinds. 5 per cent. ad val.
British Guiana.—Stearine‡; tallow; anti-friction grease, axle grease, and similar preparations. 4s. 8d. per cwt., and 5 per cent. on duty.
Gibraltar.—All kinds. Free.
Malta.—All kinds. Free.

CANDLES.

India.—All kinds. 5 per cent. ad val.
Straits Settlements.—All kinds. Free.
Ceylon.—All kinds. 5½ per cent. ad val.
Mauritius.—Wax candles. Rs. 5.8 cents per cwt., and 4 per cent. on duty.
All other candles. R. 1.52 cents per cwt., and 4 per cent. on duty.
Seychelles.—All kinds. 15 per cent. ad val.
Labuan.—All kinds. Free.
Hong Kong.—All kinds. Free.
British New Guinea.—All kinds. 9s. 4d. per cwt.
Australia.*—All kinds including tapers and night-lights. 9s. 4d. per cwt.
New Zealand.—Wax tapers. 20 per cent. ad val.
Candles and wax spills. 9s. 4d. per cwt.
Fiji.—All kinds. 9s. 4d. per cwt.
Falkland Islands.—All kinds. Free.
Cape of Good Hope.—All kinds: For us ein the Colony or any other part of the South African Customs Union. 18s. 8d. per cwt.

Ditto, in transit to places *outside* the South African Customs Union. 3 per cent. ad val.

Natal and Orange River Colony.—Same tariff as for Cape of Good Hope.

Transvaal.—All kinds. 7½ per cent. ad val., and transit duty 3 per cent.

St. Helena.—All kinds. Free.

Lagos.—All kinds. 10 per cent. ad val.

Gold Coast (West of the Volta).—All kinds. 10 per cent. ad val.

Gold Coast (East of the Volta).—All kinds. Free.

Sierra Leone.—All kinds. 10 per cent. ad val.

Gambia.—All kinds. 5 per cent. ad val.

North America (Dominion of Canada).—Paraffin wax candles. 30 per cent. ad val.†

All other candles. 25 per cent. ad val.†

North America (Newfoundland).—All kinds. 35 per cent. ad val.

Bermuda.—All kinds. 5 per cent. ad val.

British Honduras.—Tallow candles. 10 per cent. ad val.

All other candles. 9s 2.51d. per cwt.

Bahamas.—Sperm candles. 11s. per 100 lbs.

Tallow candles. 6s. per 100 lbs.

Turk's and Caicos Islands.—All kinds. Free.

Jamaica.—Composition, wax, or spermaceti candles. 18s. 8d. per cwt.

Tallow candles. 7s. per cwt.

St. Lucia.—Tallow candles. 9s. 4d. per cwt.

All other candles. 18s. 8d. per cwt.

St. Vincent.—Tallow candles. 5s. per 100 lbs., and 10 per cent. on duty.

All other candles. 10s. per 100 lbs., and 10 per cent. on duty.

Barbados.—Tallow candles. 4s. 2d. per 100 lbs.

All other candles. 8s. 4d. per 100 lbs.

Grenada.—Tallow candles. 5s. per 100 lbs.

All other candles. 16s. 8d. per 100 lbs.

Virgin Islands.—Tallow candles. 4s. 2d. per 100 lbs.

All other candles. 16s. 8d. per 100 lbs.

St. Christopher and Nevis.—Talow candles. 8s. 4d. per 100 lbs. and 10 per cent. on duty.

All other candles. 16s. 8d. per 100 lbs., and 10 per cent on duty.

Antiqua.—Tallow candles. 8s. 4d. pr 100 lbs., and 33⅓ per cent. on duty.

All other candles. 16s. 8d. per 100 lbs., and 33⅓ per cent. on duty.

Montserrat.—Tallow candles. 8s. 4d. per 100 lbs., and 33⅓ per cent. on duty.

All other candles. 16s. 8d. per 100 lbs., and 33⅓ per cent. on duty.

Dominica.—Tallow candles. 4s. 2d. per 100 lbs.

All other candles. 8s. 4d. per 100 lbs.

Trinidad and Tobago.—All kinds. 2s. 2d. per 100 lbs.

British Guiana.—Tallow candles. 4s. 8d. per cwt., and 5 per cent. on duty.

All other candles. £1 3s. 4d. per cwt., and 5 per cent. on duty.

Gibraltar.—All kinds. Free.

Malta.—All kinds. Free.

*A duty is imposed on goods imported into Western Australia from other Australian States.

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†If entitled to the benefits of the British Preferential Tariff, the duty is subject to a reduction of one-third.

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‡A draw back equal to the amount of the duty is allowed on the exportation of candles made from duty-paid imported stearine.

Wool Grease.

SCOURING OF THE WOOL.

This is effected in two different ways, either by extraction with a volatile solvent, or by washing with soap, soda, etc. The washing of wool on the back of the animal is also to be considered.

Employment of Volatile Solvents.—One of the first solvents recommended was carbon sulphide. Numerous methods of employment have been proposed, though none adopted practically, carbon sulphide being attended with serious inconveniences. On one hand, this solvent removes, not only the fatty bodies of the wool, but attacks the sulphureted compounds contained in it; according to Jacobsen, the yellowing of the wool thus treated is due to the decomposition of ferruginous compounds, which are not removed by the carbon sulphide any more than the alkalies. Besides, the wool becomes hard under this treatment, and if the solvent is driven off by elevation of temperature the employment of a current of cold air would cause marked losses of sulphide), the wool loses its suppleness and becomes brittle, which Hall attributes to a chemical change of the wool. Also, the danger of fire and of injury to health have caused manufacturers to seek for other solvents.

Richter proposed amylic alcohol, furnished good results, but the employment must have been abandoned in consequence of too great a loss of the solvent. Jean has recommended the employment of benzine as changing neither the suppleness nor the whiteness of the wool.

Braun has patented a process of removing the grease by means of ether. After scouring and taking off the impurities by washing with water, the latter is expelled by rising with alcohol, succeeded by the treatment, prop-

erly so-called, with ether. After separation of the etherized liquor of the fatty substances, the excess of ether is driven off by new rinsing with alcohol, followed by washing with water. These successive treatments take place in a closed apparatus, while a system of cocks allows of communication with one of the receivers containing the liquids mentioned.

Recently light petroleum oil has been proposed, which is pumped through the wool, dissolving all the fatty substances without changing the fiber, and securing the suint in a state of purity. An establishment working this process has treated 500,000 pounds of wool, with a yield of 80,000 pounds of pure suint.

Various other methods of extraction have been proposed, but not having been adopted in practice, we will not now consider them.

The apparatus employed or proposed for the extraction of the fat is of many kinds, and in general similar to that serving for the treatment of oleaginous seeds. A complete description would require too much space. We will refer briefly to the inventions of Merz, Wegelin, Huebner and Herzel.

The Merz apparatus, simple in construction, is similar in working to the apparatus of Soxhlet's laboratory. It is composed of two receivers—the extractor and the condenser. The extractor is separated into two compartments by means of a double partition; the upper compartment being designed to receive the matter to be exhausted, the lower compartment serving for the evaporation of the solvent as it arrives from the solution of the fats. As in the Soxhlet apparatus, an overflow pipe, forming a siphon, serves for the automatic flowing off of the solution of the fats when it reaches a certain level in the upper compartment. This extractor is furnished with a man-hole, a worm heated with the steam of the lower compartment, two pipes for injecting the steam, a level, a circulating worm at the top of the upper compartment, acting as an upright condenser by means of a current of cold water proceeding from the condenser and circulating through it, and, finally, with a pipe connecting the lower compartment with the condensing worm. The latter is a receiver, divided also into two compartments by means of a partition; the upper compartment contains a worm designed for condensing the vapors of the solvent proceeding from the connection pipe mentioned above, this worm being cooled by an external current of cold water, which, escaping from this compartment, circulates through the condensing worm situated in the upper part of the extractor, and acting as an upright condenser. A three-way cock allows of dividing this current of water without passing through the worm of the extractor. The solvent condensed in the upper compartment of the condenser is collected in the lower compartment by means of a pipe, which permits, when there is occasion, the return of the solvent. A safety valve and a level complete the condenser.

It is set working by furnishing through the man-hole of the upper compartment of the extractor the matter to be exhausted, in the present case, wool; and afterward the solvent is introduced in the same way. The steam is let into the lower worm, distilling the solvent, which passes between the double walls of the extractor and falls to the interior of the upper compartment, heats the contents after condensation in contact with the walls of the upper worm, charging itself with the fatty matter. When the solvent has reached a certain level in the interior of this compartment, the overflow siphons it into the lower compartment, whence it is redistilled, passing over the same course, and so on. A small lateral cock fixed on the siphon allows of stopping the first part of the treatment when it appears that the siphoned liquor contains fatty substances no longer. Then the current of cold water is directed from the upper compartment of the condenser to the exterior, without passing through the upper condenser of the extractor, by a turn of the three-way cock mentioned above, and the solvent is distilled by means of the lower heating worm through the pipe connecting the extractor and the condenser, in the compartment of which it accumulates. The residue of the distillation is the extracted fat, which is freed by direct injection of steam of all trace of the solvent. The apparatus is then cleansed by a special cock, and the exhausted wool drawn off and replaced by a new quantity. The solvent is brought by means of the connecting pipe between the lower compartment of the condenser and the extractor into the upper compartment of the latter, by a turn of the cock, and the operation recommences. The safety valve serves for the escape of the inside air and the uncondensible gases; but no excess of pressure is to be feared; for, if it were produced, the equilibrium would be promptly restored by the cooling and condensation of the vapors in contact with the exterior walls of the upper worm of the extractor, the excess of cooling having rather the tendency to produce a vacuum. Besides, the suitable equilibrium is readily maintained by regulating the heating and cooling. The capacity of the apparatus varies from one to ten cubic meters. The density of the solvent is of no consequence (petroleum oil, for instance, being a mixture of numerous carbides of different density), its separation by distillation being complete.

The extracting apparatus of Wegelin and Huebner is based on the same principle and allows of arrangements for treatment, cold and hot. The apparatus for extraction cold is composed of an extractor with false bottom. It is provided with a man-hole, connected by means of pipes with a worm situated in the upper part of a receiver, which is divided with the aid of a double

bottom into two compartments, the lower compartment serving for the condensed distillate proceeding from the worm. This lower compartment, to which a level indicator is attached, is connected with the upper part of the extractor. On the other hand, the extractor is provided with a lateral supply tube of the solvent charged with the fatty bodies, and interior tubes for injection of steam. This tube brings the solution of the fat into a third distilling receiver, connected also with the condensing worm. In the interior of this receiver is a worm for the distillation of the solvent by means of steam, and in its upper part a cock for cleansing.

The working of the apparatus is as follows: The extractor is charged with the wool to be extracted through the man-hole; when the latter is closed the necessary quantity of the solvent is introduced from the lower compartment of the condenser. This passes through the wool by means of the false bottom and the later tube into the distilling receiver, where it is distilled with steam and collected in the lower compartment of the condenser. It then flows again into the extractor, passing over the same cycle, until a sample proves that the exhaustion is complete. The additon of the solvent to the extractor is stopped by means of a cock, and its contents are drawn off by means of a pipe coming from the bottom and connected directly with the distilling receiver. Afterward, steam is injected into the extractor to draw off the last traces of the solvent, which are condensed in the worm and collected with the condensing water in the lower compartment of the condenser. When the operation is terminated, the exhausted matter is replaced with new wool, the condensed water of the solvent is decanted, and the fatty bodies drawn off from the last traces of the solvent. The apparatus is thus ready for a new operation. Its capacity varies from 50 to 4,000 liters.

The Hirzel apparatus is arranged in a similar way, having a pump, designed for removing the contents of the extractor into the distilling receiver, and at the end of the operation to facilitate the desiccation of the exhausted matter by causing a vacuum.

Cleansing by chemical agents is in general preceded by thorough washing with water, unless the wool has been washed on the back of the animal; then the scouring of the wool, properly so-called, takes place, for the purpose of purifying the fiber, which must be freed from all the foreign matters contaminating it.

Different products have been employed for this purpose. Some of those formerly in use have given place to chemical products, particularly solutions slightly alkaline, such as sodium carbonate (Solvay soda free from caustic soda), ammonium carbonate, soap, sodium silicate, soap wort, etc. It is important that the sodium carbonate s hould be free from alkali, for this attacks the fiber. In this respect the Solvay soda leaves nothing to be desired.

Various corrective agents have been proposed, in case the product should contain a little caustic soda. The additon has been recommended of 3 to 6 per cent. of sulphuric acid, diluted with ten volumes of water, which determines the neutralization of the caustic, with simultaneous formation of acid carbonates; or else the employment of a mixture of twenty parts of soda, five parts olein, and five to ten parts of sal ammoniac, which produces ammonium carbonate, sodium chloride, oleic-soap, and sodium bicarbonate.

The employment of ammonium requires a proportion of one kilogram of salt per one hundred kilograms of wool. The scouring with sodium silicate requires a higher temperature than soap and is practiced only in certain cases.

MM. Villermet and Mannheim have proposed the following process, which, according to them, communicates to the fiber great suppleness and much resistive power, and prevents it from growing yellow with age. It consists of a treatment with a solution of potassium carbonate, followed by another washing with a solution of the same product proceeding from a former treatment; this treatment takes place at 50 or 60 deg. C., in ten minutes; afterward the wool is washed with hot water of the same temperature, and the operation ends with a passage of a few seconds in an acid bath.

The Kraut process is based also on the employment of potassium carbonate. The solutions are evaporated dry, and the extract calcined on the hearth of a reverbatory furnace; thus is obtained in the state of carbonate, the potash contained in the wool, along with that which has served in the scouring and has been regenerated. A part of the potash obtained is used for further treatment, and the remainder disposed of in trade.

M. Langbeck treats the wool with water at 44 deg. C., which dissolves the potassic salts and a little potassic soap. The wool is subjected to the action of a turbine wheel, and is pressed and afterward submitted to the action of an emulsion of olive oil and potash lye, which removes all the fatty bodies and the impurities of the wool. This lye is afterward treated for the purpose of extracting the suint. The concentration of the lyes should not be excessive, for their prolonged employment might somewhat affect the fiber; the temperature of the baths should not exceed 50 deg. C.; above that point, the wool might also undergo a partial change. The scouring is facilitated by constant agitation of the lye.

At the outset of the operation the wool was formerly placed in baskets, which were immersed in the bath. To this rudimentary treatment the employment of machines has succeeded, composed essentially of a vat, and interior contrivances for keeping the wool in motion. In

this perfected mechanical apparatus, the wool is drawn from the bath after each immersion, pressed and immersed again, which improves the treatment.

For the purpose of economy in the use of water and of lye, and for a more rational treatment, a series of three vats, following each other, has been introduced; the first serving for washing of the crude wool, the second for scouring, and the third for rinsing. The lye passes from time to time from the third into the second and the first vat, whence it is conducted into a reservoir, the wool passing from the first into the second, then into the third. Various machines have been proposed by Schimacher, Leroy, Ralp, Norton, Desplas-Peltzer and others, which have been subjected to essential modifications in order to meet present exigencies.

The apparatus now generally adopted is that called "Leviathan," which serves in a continuous and automatic way for washing, scouring and rinsing, including several vats, answering a special purpose.

As a type of this apparatus, that constructed by Henri Demeuse & Co., of Aix-la-Chapelle, may be mentioned. It is composed of three similar vats, serving successively for washing, scouring and rinsing. The wool, introduced between the pallets of a cylinder, called the "plunger," is drawn to a false bottom with inclined open work, whence an eccentric fork raises the wool and shakes it, causing the mechanical impurities to fall to the bottom of the vat, and replaces it on the false bottom, where another fork shakes it again and pushes it, equally distributed, to an elevator (system of forks provided with reciprocating motion), from which it is transmitted to two rollers; these press the fiber, which is afterward drawn by an endless table to the next vat. The lye is introduced by means of injectors or sprayers, the steam which is utilized for this purpose heating and becoming condensed in the bath. A valve at the base of the vats allows of drawing off the impurities.

The machines of Deru and of Verviers are similar in principle to the preceding, differing only in an improved plan of elevator. Finally the process based on scouring with clay (Loebner); that founded on the employment of plaster (Larcade), and that of Rohart, which utilizes potassium sulphydrate, may be mentioned.

EXTRACTION OF THE CRUDE SUINT AND ITS PURIFICATION.

The waters proceeding from the "leviathans" constitute an emulsion of fats of the wool, in the solution of soap or alkaline carbonate employed, with the mechanical impurities of the wool. These waters, clarified by repose and decantation, serve for the extraction of the fats; still, they produce a suint retaining the fatty substances of the soap, while the processes based on the employment of solvents furnish solutions from which pure suint can be extracted.

The lyes of the "leviathans" are submitted either to direct treatment with sulphuric acid, or to a previous precipitation by calcium chloride and lime, with an ulterior decomposition of the calcareous soap with chlorhydric acid. Formerly no attempt was made to regenerate the fatty substances; the calcined calcerous soap was collected with the production of lighting gas. Then, a more rational treatment was recommended, consisting of a separation of the fats by the direct action of sulphuric acid. A mixture of the fatty acids of the soap, the fats of the wool and mechanical impurities, was separated in a compact mass; the treatment of this mass was attended with considerable loss of the fats in filtration, in pressing, and in bleaching, which was effected with the aid of a solution of potassium chromate, acidulated with sulphuric acid.

Later, Vohl advised the precipitation first with calcium chloride, and the decomposition of the calcerous soap with chlorhydric acid; the fatty acids obtained were clarified.

The treatment with sulphuric acid consists of the addition of two liters of acid, of 50 to 60 deg. Beaume, to 1,000 liters of the lye of the "leviathan" previously clarified by rest (still having a milky appearance), and heating by direct injection of steam at the temperature of 65 deg. C. The fat floats on the surface, is decanted, pressed at first cold, then between hot plates, afterward purified with sulphuric acid hot, washed and dried by steam.

The treatment by decomposition of the calcareous soap is conducted as follows: A sufficient quantity of calcium chloride, with the addition of a little milk of lime, is precipitated under the influence of gentle heat, and passed to the filter press (Graff employs a slightly acid solution of calcium chloride in order to avoid the precipitation of carbonate of lime). The soap is diluted with water, and a sufficient quantity of chlorhydric acid added hot. The fatty acids are separated and treated as in the preceding process.

For bleaching the fats, a solution in water (10 to 12 parts) of potassium bichromate (1 part), acidulated with 66 deg. sulphuric acid (3 parts), is employed; or else, a solution of sodium bichromate, which is cheaper and more soluble, and of chlorhydric acid. In the first case the oxygen is the active agent. In the second, the chlorine also intervenes. The operation of bleaching lasts for about twenty minutes, and a temperature a little above the fusing point is recommended; if the fats become too fluid, the mixture with aqueous bleaching solution is not intimate; and this is an essential condition. When the operation is terminated, the aqueous liquor is drawn off, and the fats washed with boiling water.

Other processes have also been patented for the separation of fatty substances from the lyes of the "leviathan."

That of Neumann is based on the previous precipitation of these waters with the aid of a small excess of milk of lime (½ to 1 per cent.); the precipitation is facilitated by the addition of a small quantity of a solution of sulphate of magnesium or of iron. The formation by double decomposition of a little calcium sulphate and hydrate of magnesium, or of iron precipitated in the nascent state, clarifies the waters completely, and it is sufficient to pass them to the filter-press. The cake obtained is submitted to the acid treatment as above to separate the fats.

According to the Norddeutsche Wollkaemmerei und Kammgarnspinnerei, in order to obtain an odorless suint, the solutions of the "leviathans" are decomposed with sulphurous acid, instead of sulphuric acid. This has the advantage on one hand of preventing the putrefaction of the waters, and on the other hand of converting the potassic sulphides into hypo-sulphite, with separation of sulphur, which otherwise would pass into the suint and communicate to it an odor difficult of removal.

Langbeck's treatment consists in concentrating in a vacuum the washed waters of the wool, then treating them with 50 or 60 per cent. alcohol, which dissolves the soap, while the suint and the mechanical impurities remain insoluble; these are separated either by pressure or by an appropriate solvent. The alcoholic solution of soap is evaporated; and the residue, decomposed with an acid, serves for the manufacture of candles.

An original process has been recently patented, by Smith & Sons and Walter Leach, consisting in concentrating the wash-waters, so that the difference of density between the fats and the lyes shall allow of their separation. For standard indication, the density of the fat is 0.916, and that of the concentrated lye 1.4.

According to Kleemann, the color of the suint being due to products of decomposition, mucilages and albumen, these may be separated by addition to the solution of suint (in benzine or petroleum ether for example) of tannin, phosphoric acid, acetic acid, or lead acetate, with simultaneous action of alcohol; a rather high temperature facilitates the precipitation. The benzinic solution, separated from the precipitate, furnishes a clear yellow fat.

Hiram—Yes, old Cyrus Kale went to the town paper and advertised for a cook, laundress, seamstress, wood cutter, milker, barn yard attendant, soap-maker——

Silas—Stop! How in tarnation much space did all them advertisements take up?

Hiram—There was only one advertisement. Old Cy advertised in the personal column for a wife.—*Chicago News.*

Personal Names As Trade-Marks.

In 1881 the South Bend Pulp Company was organized to engage in business at South Bend, Ind., in the manufacture and sale of plows. The largest stockholder of the corporation was its president and general manager, T. M. Bissell, who had been for some years engaged in the manufacture of plows, covered by certain patents. These patents he transferred to the company. The plow business of the corporation was separate and was always conducted under the name of "The Bissell Chilled Plow Works," and all its plows were marked with the name "Bissell," and became known to the trade by that name. In 1891 the making of plows became the corporation's principal business. With the consent of Bissell, the firm name was changed through statutory proceedings to the "Bissell Chilled Plow Works," under which name the business was continued. About the time of the change Bissell sold a part of his stock, retired from the management, and organized a corporation under the name of the T. M. Bissell Plow Company, which engaged in the manufacture and sale of plows in South Bend, making substantially the same plows as the old corporation and marking them with the name Bissell. After a year or so, Bissell died and the business of the T. M. Bissell Plow Company was discontinued. Subsequently certain persons residing at Eaton Rapids Mich., purchased a part of the stock, patterns, etc., of the defunct corporation, taking an assignment of the right to use its corporate name, and organized a corporation called the T. M. Bissell Plow Company, to engage in making plows at Eaton Rapids, Mich. Circulars were issued stating the removal of the company from South Bend, and containing pictures of Bissell, and referring to him as "the inventor of chilled plows, once made in South Bend, Ind. and now only made by the T. M. Bissell Plow Company, Eaton Rapids, Mich." Its plows were also marked "T. M. Bissell," and were similar in design and appearance to those of the old corporation. The original Bissell patent for chilling was owned and the process used by the old corporation, which also held shop rights for the use of the later patents, some of which were afterward owned and used by the Eaton Rapids firm. No one of the name of Bissell or connected with the prior Indiana corporation of the same name had any connection with the Eaton Rapids corporation.

The old corporation sued the new corporation in equity on the score of unfair competition, and sought to restrain the use of the corporate name of Bissell (Bissell Chilled Plow Works vs. T. M. Bissell Plow Company, 121 Fed. Rep., 357). The Circuit Court for the Western District of Michigan held that the second Indiana corporation had no right to use the name of Bissell as it did, either in its corporate name or as a mark of its product as against the complainant, which had

acquired the prior right, and that the defendant corporation obtained no right by the assignment; that the action of the defendant in the use made of the name in both respects constituted unfair competition. It was likewise held that the fact that two corporations are located in different communities does not affect the right of one to an injunction restraining the other from unfair competition by adopting a similar corporate name, where they are engaged in the same business and their products are both sold in the same open markets.

The Right of Privacy.

People interested in advertising matters (and most business men are) will remember the action taken last year by our court of appeals on the unauthorized use of a portrait as an aid in bringing to public notice a certain article of merchandise.

A manufacturer of flour secured a photograph of a handsome young woman, without her knowledge and consent, and reproduced it in advertisements of his wares. The young woman very properly objecting to such a use of her picture brought an action for injunction and damages. In the lower court she was successful but on appeal the decision was reversed, the court, it should be noted, being divided, four to three.

In the majority opinion it was said that "the so-called right of privacy is, as the phrase suggests, founded upon the claim that a man has the right to pass through this world, if he wills, without having his picture published, his business enterprises discussed, his successful experiments written up for the benefit of others or his eccentricities commented upon either in handbills, circulars, catalogues, periodicals or newspapers, and, necessarily, that the things which may be written and published of him must not be spoken of him by his neighbors whether the comment be favorable or otherwise.

"While most persons would much prefer to have a good likeness of themselves appear in a responsible periodical or leading newspaper reather than upon an advertising card or sheet, the doctrine which the courts are asked to create for this case would apply as well to the one publication as to the other, for the principle which a court of equity is asked to assert in this action is that the right of privacy exists and is enforceable in equity, and that the publication of that which purports to be a portrait of another person, even if obtained upon the street by an impertinent individual with a camera, will be restrained in equity on the ground that an individual has the right to prevent his features from becoming known to those outside of the circle of friends and acquaintances.

"If such a principle be incorporated into the body of the law through the instrumentality of a court of equity the attempt to logically apply the principle will necessarily result not only in a vast amount of litigation, but in litigation bordering upon the absurd, for the right of privacy, once established as a legal doctrine cannot be confined to the restraint of the publication of a likeness, but must necessarily embrace as well the publication of a word picture, a comment upon one's looks, domestic relations, conduct or habits. And with the right of privacy once legally asserted, it would necessarily be held to include the same thing if spoken instead of printed, for one as well as the other invades the right to be absolutely let alone. An insult would certainly be in violation of such a right and with many persons would more seriously wound the feelings than the publication of their picture."

This decision called for much criticism in law journals and elsewhere, and presumably as a direct consequence, the legislature of this state has supplied or at least attempted to supply by statute what was found to be wanting in equity, in the case under consideration. A bill has been passed and signed by the governor prohibiting the use of the name or portrait of any living person for purposes of advertising or trade without the written consent of such person first obtained. Injunction may be had and suit may be brought to recover damages for any injuries sustained by reason of such use; and if the defendant shall have knowingly used a name or portrait in the manner forbidden, the jury may in its discretion award exemplary damages.

This law we hope will stand the test of constitutionality if any one chooses to test it. It is manifestly difficult to lay down hard and fast rules as to the right of privacy in a general way; but there seems no good reason to doubt that any individual should have protection against impertinence. And it seems also clear that for one person to exploit another for advertising purposes without permission is impertinence of a very objectionable kind.

Sitosterol In Maize Oil.

A. H. Gill and C. G. Tufts (Journ. Am. Chem. Soc.) find that the cholesterin body present in maize is not, as stated by Hoppe-Seyler and Hopkins, cholesterol, but a body having a lower melting point, which they have isolated and found to be identical with the sitosterol found in wheat and rye by Burian. It occurs in what appear to be broad needles, which are shown by the microscope to be composed of long thin laminæ, longer than broad, and pointed at the ends. It melts at 138 deg. C. Cholesterol melts at 146-147 deg. Sitosterol acetate melts at 127.1 deg. C., the benzoate at 142-142.5 deg. C., and the propionate at 108.4 deg. These melting points not only closely agree with those of Burian's sitosterol from wheat and rye, but are practically identical with those of Reinitzer's hydrocarotin.

Testing Olive Oil.

A correspondent of the Pharmaceutical Era writes:

"We had occasion to suspect cotton-seed oil adulteration in a quantity of 'imported' olive oil, so we tested it according to the tests of the U. S. Dispensatory and found therein approximately 5 per cent. cotton-seed oil or some other foreign oil. As this lot of oil was guaranteed to us to be pure olive oil we wrote to the proprietors in regard to the adulteration which we claimed to have found. They replied that we were mistaken and that the oil was pure, giving as evidence in support of their statement that the Italian government imposed such a high tariff on cotton-seed oil that its use for adulterating olive oil was commercially impracticable.

"One of the most effective tests we applied was that of the U. S. Dispensatory (18th Ed.) which says: 'If 5 c. c. of the oil be thoroughly shaken, in a test tube with 55 c. c. of an alcoholic solution of silver nitrate (prepared by dissolving 0.1 gram of silver nitrate in 100 c. c. of deodorized alcohol and adding 2 drops of nitric acid) and the mixture be heated for about 5 minutes in a water bath, the oil should retain the pale yellow color, not becoming reddish brown, nor should any dark color be produced at the line of contact of the two liquids (absence of more than 5 per cent. of cotton-seed oil and many other foreign oils.)' The oil when tested by this test showed a black zone at the line of contact of the liquids."

"Can this test be depended on, or is it possible that it has 'lied' and the oil is pure?"

The Era answers to this: Without directly replying to this inquiry it may be stated as a general rule that the indication of this test, like many other special tests, is not to be regarded as absolute but rather as presumptive proof of the purity or adulteration of a given sample of oil. Pages have been written on the various tests for olive oil, but no one of the writers, so far as we can learn, would be willing to stake his reputation on the results he might obtain from any single test. Chemists prefer to base their opinion upon a number of confirmatory tests, the combined results showing pretty accurately the character of the oil under investigation. The data furnished by the pharmacopoeial tests are in the main trustworthy, and if a sample of olive oil complies with all of the official requirements it is pretty good evidence that it is true to name. There are also other tests one may employ in addition to the determination of physical and chemical constants, temperature reactions, etc., and which may be found in almost any work on organic chemical analysis. Bechi's test for the detection of cotton-seed oil in olive oil or lard, as modified by later investigators, consists in heating the suspected oil in a test tube with a dilute solution of silver nitrate in alcohol and ether, the formation of a deposit of metallic silver on the test tube indicating the presence of cotton-seed oil. Wesson states that even perfectly pure lards may darken under this treatment due to certain associated bodies, and he advises their previous removal by washing the suspected sample with dilute alkali solution and nitric acid.

To what extent the import duties of the Italian government make the use of cotton-seed oil prohibitive we are unable to state. But it is interesting to note that for the nine months ending March, 1903, there were exported to Italy from the United States 1,559,073 gallons of cotton-seed oil, valued at $699,699. During the same period our imports of olive oil were 1,100,261 gallons, valued at $1,258,405.

Excessive Discounts.

The question of "excessive discounts" is a problem over which all of us have fretted, and perhaps used a few words not proper nor appropriate in polite society. We have often been forced, as a matter of policy, to accede to the unjust claims or demands of unreasonable customers because they say our competitors allow it without question or controversy, and if we do not allow it, they will buy from someone who is more liberal in his dealings.

I have, however, made it a rule to return any and all checks where unreasonable demands or erroneous deductions are made. I think the trouble is largely within ourselves, as we encourage rather than discourage such actions by pocketing our loss and charging off these small balances which, in a year, aggregate a large sum. In fact, if we would keep a strict account of these excessive and unreasonable claims, we would be appalled at the end of the year, and we would then understand why our profits were not larger and more satisfactory.

There is another item which is quite as important as over-deductions, i. e., the question of refusal of parties whose accounts run past maturity to pay interest for overtime. We might, with equal justice, refuse to allow interest for anticipation, or even the discount, when the account is paid within proper discount period and it is a poor rule as the old saying is, "that does not work both ways."

Not long since a customer sent a check for his account which was past due, and took off full discount. I at once returned his check and called his attention to the fact that the account was overdue, and that he owed us interest, as per statement sent him, and insisted upon payment accordingly. After several letters had passed he sent a check in full of the amount due, and stated "In full of account from the birth of Christ till Hell freezes over." It is needless to say that his account is closed with us.

It seems that there is but one way to remedy these

evils, and that is in our own hands. We must take a firm stand, and insist upon strict compliance with our terms, both as to discounts and payment of interest, and if everyone will stand shoulder to shoulder to enforce such a position, the evil will be broken up or greatly lessened. I think if we could only have the same amount of "backbone" displayed by an Eastern house with a customer in one of our sister cities it would be eradicated entirely. In this case a customer took off a small amount in excess of the proper discount and would not respond to requests for correction. They sent their salesman to see the customer and he wanted to give him an order, but the salesman told him frankly that he would not accept an order until the small balance due his firm was paid; and it was paid. We may not be in position to be quite so independent, but we can greatly improve the situation and add to our profits by taking a firm stand for our rights.

It is only by united action and an unwavering stand that we can accomplish a thorough reform.—*Business Topics.*

The "Average Druggist" Has A Scheme.

"A man came into my store the other day," said the Average Druggist, "and bought a 25-cent box of toilet soap. The occurrence was not so unexpected as to stir up my emotions, but what he said has caused me to do a lot of thinking. 'Nice lot of soap you seem to have in your window,' he remarked. 'Nice-looking wrappers, neatly got up and it looks inviting, but say, how am I to tell it's any good? I don't know anything about soap and I can't ever see the name of the manufacturer for the fancy letters? Why don't you druggists tell people what is good soap and what's what? My wife came home from down-town last week with some soap that is rank enough kill a cat—she got it in Grabag's store, three cakes for a nickel, slaughter sale, and so on. I am buying this soap from you because I know you keep good stuff, but how is a poor stranger to steer clear of slaughter-house scrapings?' Now that man probably was just like the rest of people, and when I took a look from outside—at my great attempt at a striking soap-window display, I must confess that I couldn't see anything there, from his standpoint, to make anybody stop at my place for soap instead of going down town where he or she might get 'three cakes of soap for a nickel.' Now on the quiet, I have begun to believe here lately what you drug-paper men have been dinning at us ever since I can remember—that we 'average druggists' let outsiders grab out trade because we haven't gumption enough to see that we could have lots of things all our own if we'd hustle around and show people that we were able to protect them from trashy stuff because it's our line of business to know what's what. There is this soap, for instance, Aesculapius only knows how many dimes I ought to have that have gone down-town for soap! That 'soap window' of mine wasn't a bit different in the eyes of people from dozens they've seen in other drug stores, so why should they select my place to buy soap—all the druggists around here bought a lot from the same drummer and we all sell it at the same price? But wait, my boy, I don't need a surgical operation yet a while to get an idea into my head, and I'm going to make a strenuous play for the dollars in return for the gray matter I've used up on my think spell. It's an easy one, too, it's this—major premise—we druggists have in our stock dead loads of things people know mightily little about—minor premise—curiosity is the ruling motive in life—from touching paint to see if it is 'fresh,' as the signs say, to getting married; reduction—gratify curiosity and get the dollars. See? You don't? Well, I'll explain.

"People nowadays are pretty well educated, and if I simply put some soap in my window and stick in a card saying 'best soap in town—10 cents a cake,' it doesn't even make them look, for every other man says his soap is the best, too, and the same old price. But, here's my point, if I put in a sign like this, it works both ways and in the middle on the public—it tells them why my soap is good, makes them see I know what is good soap and educates them away from trashy stuff. Incidentally, I get the reputation of knowing my business."

The Average Druggist handed the Era man a card on which was printed in letters big enough to read from a little distance the following legend: "We recommend the soap in this window as being the best for toilet purposes. It is made from vegetable oils and pure soda lye, with just the least excess of oil uncombined with the lye to prevent the soda from harming the skin. It has no rosin water-glass, starch, rancid fat from the slaughter house—or any thing else in it but pure soap. It is made by Blank & Co., who thoroughly dry and press all their soaps—you get all soap and not half water in their goods. We sell it at 10 cents a cake."

"How's that?" he asked, "of course you might leave out the maker's name if you choose, but I believe in these-days of advertising, a man's foolish not to take advantage of the reputation a reliable firm has worked up for its goods. The sign is only part of my idea—which, by the way, is not a new one—John Wanamaker used it to build up his big trade and name. I'm having some neat little booklets printed telling about soaps, what soaps are made from, how they are made, what materials are used in cheap soaps and how these adulterations and the rotten stuff used injure the skin, what kind of soap is good and fit to use, how one cheap soap—oh, there's a whole story in it. One of these booklets will be wrapped up with every purchase during the week I have

soap on the grand-stand. I'll have soap all over my store where everybody must look at it every soap pile will have a pile of booklets handy and a sign to attract attention to them."

"Now a big part of my scheme, to my notion, is that all my thinking and printing will be nine-tenths wasted if I don't get people to notice it. If they notice and read my educational pamphlets I'm just egotist enough to be sure I will make money out of the game. Consequently, I am going to make people notice my little efforts. When I'm ready to start my soap week everybody in my neighborhood is going to know I've got soap on hand, I'll simply pervade that section with soap, every one coming in my store will have soap impressed on them by sight, smell and feel."

Properties of Carbon Tetrachloride.

BY OTTO RAUBENHEIMER, IN PHARMACEUTICAL ERA.

Carbon tetrachloride is a very heavy, colorless, transparent, mobile liquid, having a neutral reaction. Its taste is pungent, aromatic and cooling, but not sweet like that of chloroform. Its odor is agreeable and aromatic, resembling that of chloroform. The liquid is very volatile even at low temperature. It is absolutely non-inflammable, its vapor does not take fire, but it has the remarkable property of tinting a blue flame green and the green flame an intense blue.

The vapors do not support combustion, but act in the reverse is a fire extinguisher. A few drops placed upon a burning alcohol lamp or on a wick of a burning candle extinguishes the flame at once. If you fold a piece of paper into longitudinal folds, about four folds one-half inch wide and eight inches long, and suspend this horizontally in the air by means of a wire, and then saturate about one-half the length of the paper with carbon tetrachloride and light the other end, the flame will die out before it reaches the center.

The specific gravity of carbon tetrachloride is 1.6; the boiling point 77 degrees C. The liquid is insoluble in water, diluted alcohol containing less than 75 per cent. by volume of absolute alcohol and also in glycerin and the glycerites. It is freely soluble in acetone, glacial acetic acid, oleic acid, liquid carbonic acid and aqueous solution of carbolic acid, ethyl, methyl and amylic alcohol, chloroform and spirits of chloroform, carbon disulphide, benzol (benzine), ether and spirits of ether, aniline, oil of turpentine, petroleum and all petroleum products; also in fixed and volatile oils and oleoresius. Carbon tetrachloride is itself one of the greatest of solvents. It dissolves oils, fats, wax, ceresin, spermaceti, paraffin, stearin, varnish, paints, shellac, asphaltum, pitch, resins, balsams, coal tar, pine tar, gutta percha, india rubber and soda and potash soaps. It also dissolves salicylic acid, carbolic acid, iodine, bromine, iodoform, bromoform, menthol, thymol, camphor, camphor monobromate, naphthalin, etc. It furthermore dissolves several gases among others ammonia and hydrogen sulphides. It is not acted upon by the strong mineral acids and is not decomposed by an aqueous solution of potassa, which will however remove any carbon disulphide or hydrogen sulphide present. An alcoholic solution of potassa converts it into a mixture of potassium chloride and potassium-carbonate.

Carbon tetrachloride is by nascent hydrogen gradually converted into chloroform and by still further reduction into dichlor-methane or mehtylene bichloride. It is also non-explosive. I have kept a dish of it near a gas jet for several days and have prepared different mixtures of air and vapors of the liquid without causing any explosion.

Another remarkable p roperty of carbon tetrachloride is that it does not in the least affect the colors of fabrics. The most delicate colors, even aniline colors of silk, satin, laces, etc., are not affected in the slightest degree.

According to Hager's Pharmacent. Praxis carbon tetrachloride should, like chloroform, be kept protected from sunlight and should be mixed with one per cent. of absolute alcohol.

Somaliland Soap.

Whatever may be the ultimate results of the Somaliland campaign, it will at least have the effect of drawing attention to a new soap. Mr. Bennett Burleigh, writing in the Daily Telegraph, says, "We have not yet taken to cleaning ourselves like fowls and donkeys, by rolling in the dust, and we don't live in that hope. Still, I'll put this down for Somaliland and her curios—we have found the bulbous root of a vine, called 'gush-gash,' which raises an excellent lather. Ordinary soap won't do so in Galkayu, or in most of these south side Somaliland waters. They are so rough as to knock chips off you—worse than the water supplied by the hard London corporations. But put 'gush-gash' in the basin, and you transform the water, and have an easy and a pleasant wash. It is really a splendid detergent, and the root, moreover, has a rish odor of scented hawthorn and almond flowers. I am giving away, I know, a tip and a fortune to some enterprising soap manufacturer."

There i$ a little matter to which the Journal beg$ to call the attention of $ome of it$ ubcriber$. We really hate to $peak of it, but $ome have $eemingly let it $lip their mind$. To u$ thi$ i$ a very important i$$ue; in fact, it'$ nece$$ary in our bu$ine$$. We won't $peak further on the $ubject. Perhap$ you have already gue$$ed the drift of our remark$.—*National Laundry Journal.*

Beeswax From Madagascar.

The French Colonial Government having inquired of its officials in the colonies as to the prospects of bee culture, the reply from Madagascar was as follows, in brief: "Madagascar has always been counted as a bee country, and its wax has always been prized on the European market. However, bee culture has not been followed here, only wild honey having been got in the usual primitive way. Only the wax is exported, for the natives eat the honey or make a sort of rum from it. The island exported in 1900 217,918 kilos. of beeswax, of the value of 507,800 f., and in the year 1901, the exports amounted to 262,923 kilos., worth 639,150 f. The reports from French Guinea and the Cote d'Ivoire were very encouraging. In the former colony the natives cultivate honey, but, as in Madagascar, it is not exported. The wax is. It is a new industry, and in 1901 the export amounted only to 6 tons, and in 1902 it was 20 tons. . Considerable quantities, however, get over the frontier into the neighboring colonies. In the latter, the honey and wax are both consumed on the spot. There appears to be no 'cultivation' there of the bee. The report from the French Congo was very meager and not inspiring. The foregoing reports from the Quinzaine Coloniale and the Depeche Coloniale, comparatively unimportant in themselves, show that the French are going to make their colonies a success if they can.—*Oils, Colors and Drysalteries.*

Adulterant of Peppermint Oil.

C. T. Bennett (Chem. and Drug.) reports a new adulterant in peppermint oil. A sample of oil examined contained 15 per cent. of purified acetin a mixture of the three acetic esters of glycerin. This substance is cheaply and easily prepared by heating glycerin for several hours with glacial acetic acid. The adulterated oil presented the normal appearance, odor and taste, but the physical and chemical properties differed considerably from those of the pure oil. No satisfactory test for the adulterant is given, the solubility test being perhaps the most valuable.

The Wax-Palm of The Andes.

The wax exuding from the stem and leaf bases of the wax palm (Ceroxylon andicola) is mainly composed of resinous substances, only about one-third of the whole being pure vegetable wax. It is therefore too combustible to use alone as a candle material, but must be mixed with about 33 per cent. of tallow to fit it for that purpose. Unfortunately, the method of obtaining this wax is only too often that of felling the trunks (which are then used for building purposes) and scraping the stems. By this barbaric practice, large tracts of forest in the Andes have been robbed of their greatest beauties. The sole rational manner of recovering the wax is by scraping the standing trees, the collector ascending the trunks in the same way as is done when gathering dates, viz., by the aid of a belt slung around his body and the tree, the feet being supported by the excrescences left by the bases of the old leaf spathes. The wax is scraped off with a sharp knife, and gathered in an apron. Each tree yields about 18 to 25 lbs. of whitish or yellowish wax, and an industrious collector can gather about ½ cwt. per month. The raw wax fetches about 1s per lb., and its chief use is in the manufacture of wax matches. It burns with a fine bright light, with little smoke, and an agreeable resinous odor. It can be easily purified; and it is highly desirable that the industry should be developed in a rational manner, as has been done in the case of Chinese wax.

PATENTS AND TRADE-MARKS.

The following list of recent Patents and Trade-Marks is reported by W. G. HENDERSON, Solicitor of American and Foreign Patents and Trade-Marks, Norris Bldg,, Washington, D. C. A copy of any of the following will be furnished by him for 15 cents.

TRADE-MARKS.

40,408. Clothes-washing Solution. John E. Craig, Cleveland, Tenn. The pictatorial representation of a boiling pot mounted on a base over burning fagots and a nicely dressed woman with a long stick in the act of stirring the contents of the pot.

40,453. Laundry Starch. The Gold Leaf Baking Powder Company, Defiance, Ohio. The representation of a gold leaf, coupled with the word "Gold."

40,454. Soap. A. M. Capn's Sons, New York, N. Y. A central shield on either side of which are representations of a woman seated upon a scroll, with one hand resting upon a small shield, a candelabrum being positioned immediately above each small shield, a spread eage being positioned in the foreground immediately in front of the central shield.

40,483. Soaps. Jacob C. Siemon, Wiarton, Canada. word "Lanthol."

40,484. Washing Compounds. Patrick J. O'Neil, Chicago, Ill. The compound word "Kleence-I," together with the representation of a woman seated upon a bench, a washboiler resting upon the floor, and one or more articles of clothing stretched upon a line.

40,535. Laundry Soap. Troy Laundry Machinery Co., Limited, Chicago, Ill. The word "Trojan."

40,536. Bluing. Troy Laundry Machinery Co., Limited, Chicago, Ill. The word "Thojan."

LABELS.

10,053. Title: "Dr. E. P. Robinson's Facial Soap." (For Soap.) Edward Percy Robinson, New York, N. Y.

10,054. Title: "Miller's X Rays Soap." (For Soap.) Henry F. Miller, Philadelphia, Pa.

10,077. Title: "Riverside Gloss Starch." (For Starch.) Douglas & Company, Cedar Rapids, Iowa.

AROUND THE SOAP FACTORIES.

News-items sent us by our readers will find prompt attention in this column

It is announced that the deal for the sale of Charles F. Miller's soap plant at Lancaster to the Pennsylvania Soap Company has been closed, and the new owners took possession. The purchase price is $375,000 in cash, the bulk of which has been paid through the Union Trust Company. Mr. Miller remains a director of the new concern. Charles A. Miller, of the wholesale grocery firm of Miller & Martman, of Lancaster, will be president of the new company.

A $100,000 oil mill, refinery and soap factory is being planned for Opelika, Ala.

The occurrence of the flood in the Kaw Valley had given rise to some speculation as to whether the projected soap works of Procter & Gamble at Armourdale would be erected after all. The plans for building, however, are being pursued without interruption.

The Lederer & Wolf's and the Hemingway Co.'s fat rendering works at New Haven, Conn., have passed into the hands of Swift & Co.

Incorporated: The Standard Rendering Company, at Portland, Me., to render and sell fertilizers, greases, oils, etc. Capital, $1,000,000. President, J. E. Baldwin; treasurer, H. E. Mason; both of Portland, Me.

The St. Bernard Rendering & Fertilizer Co. has obtained a permit to establish a plant at New Orleans.

A new company has been organized at Caledonia, N. Y., for the manufacture of mechanics' soap. Other preparations for cleaning windows, silver, woodwork, floors, and scouring knives are also to be made. The base of all the preparations is the marl taken from the marl beds near that place.

W. K. Leaman, for many years a soap manufacturer in Reading, Pa., has remodeled his factory into a storage house.

The Camden & Philadelphia Soap Co. has secured a tract of land at Camden on which it intends to erect a four-story factory, 80x80 feet and warehouse and stable.

Charles F. Krauter, at one time engaged in the manufacture of soap at Bridgeton, N. J., died in that city on June 6, at the age of 76.

Incorporated: The Erickson Soap Co., of Hartford, Conn., filed certificate of incorporation; capital stock, $5,000. The incorporators are William J. Carroll, Louis G. Erickson and John T. Robinson, all of Hartford.

A certificate of incorporation of the Textile Soap Co., Washington, D. C., has been placed on record. The incorporators are C. H. Mason, John Rabinson, D. S. Fletcher, N. A. Smith and K. M. Fletcher.

Articles of association have been filed at the office of the secretary of state for the incorporation of the Providence Sizing Co., which is formed for the purpose of manufacturing and dealing in sizings, soaps, softeners, dressings, etc. John R. Butterworth, John R. Butterworth, Jr., and Walter Yates, all of Cranston, are named as incorporators. The new concern is capitalized for $12,000, and will be located in Cranston, R. I.

Incorporated: The Eastman Toilet Co., at New York, to manufacture toilet preparations. Capital, $5,000. Incorporators, Bretelle C. J. Eastman, Marie E. Oakes, Evangeline Bugenthal, all of New York.

The various properties of the former soap manufacturing firm, C. L. Jones & Co., at Cambridge, Mass., have been disposed of at auction. The old soap works property on Pearl Street brought $25,000. At that figure it was bought by a syndicate which intends to cut the estate up into house lots.

The certificate of incorporation of the Swift Manufacturing Company has been filed. The capitalization of the company is $25,000. It will manufacture and sell soaps, oils and like products. Its chief place of business will be at Akron, N. Y. The directors are George N. and W. E. Swift of Akron, and C. B. Cummings of Buffalo.

A million dollars are to be expended by the new owners in the improvement of the Standard Soap Works at West Berkeley, Cal.

Fels & Co., of Philadelphia, have begun suit in the United States Circuit Court charging the Benzinated Soap Company, a New Jersey corporation, with infring-

ing upon the wrapper used by the complainant in the retailing of its product. Injunction, an accounting and $5,000 damages are sought.

The Prouty-Bowler and the Puck soap works at Des Moines, Ia., were in the district recently flooded, and had their share of the general hardship.

The Rome (N. Y.) Soap Co. has increased its capacity by a 90,000-lb. kettle.

The business of the Gibson Soap Co. at Kingston, N. Y., will be continued by a firm composed of W. F. Rafferty, Ira Black and Wm. Roach, all of Kingston.

Adolph Kessling is a new soap manufacturer, having started operations at Brenham, Texas.

Boston, June 16.—C. E. S. Turner, agent of the Campbell Perfume Co., has been sued on a charge of alleged larceny of $500. It appears to be the old story of hiring a clerk at so much a week—the salary was to be $20, with fifteen per cent. additional on the profits—and requiring him to make a deposit of a guarantee of his honesty. For the $500 deposited, the "clerk" was given fifty shares of stock in the company. He worked a little more than a week and was paid his salary in full, but was refused his $500. Turner claimed that it was given in payment for purchased stock, and not for collateral, and that it had been turned into the business. The plaintiff alleges that Turner said that he had put $65,000 into the business, but a visit to the company's factory, in Worcester, showed only about $100 worth of stock. When the company was incorporated last fall, the application for the certificate showed only $1,000 paid in. The case is under advisement by the court.

The new factory of the Henry Roever Co. at Chester, Pa., is about completed.

The Markets.

TALLOW.—The market continues rather dull, owing to increased production and some accumulations on consumers' hands. Last sales in New York of city make in hhds. reported at 5c. Chicago sales of city rendered in tierces 4⅜c; for prime packers 5¼ to 5⅜c is asked.

GREASE.—Yellow grease is offered at 4½ to 4¾c; bone and house at 4⅜ to 4¾c; "B" white 5½c.

COTTONSEED OIL.—Prime yellow offered in New York at 43c; off yellow offered at 38c.

COCOANUT OIL—Ceylon, 5½c asked for spot and 5⅝c for goods to arrive. Cochin, 6¼ to 6½c asked for small lots and 5¾c for September shipments.

CORN OIL.—4⅜ to 4⅝c; as to quantity.

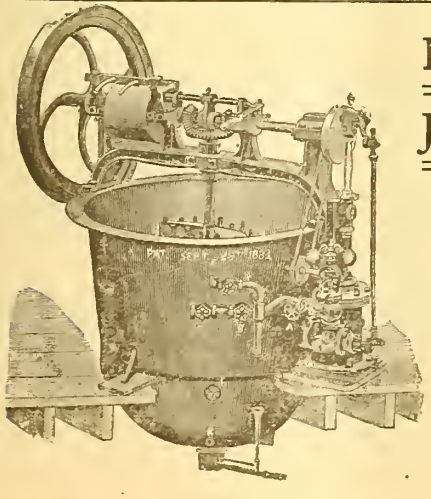
PALM OIL.—5½c asked for prime red for spot and 5¼c for early arrival: and 5¾c for Lagos. Palm Kernel Oil held at 5½c for spot and about ¼c less for future arrivals.

OLIVE FOOTS.—5⅞ to 6c asked for best grades.

RED OIL—4⅞ to 5c asked for saponified; with still very little demand.

Additions to Our Brand List.

Amber Rose 346
Atoka 346
Baby Mine 8
Beaumont's Shaving 346
Beef Oil 340
Bell's Naphtha 343
Bunny—Hewitt Bros. Soap Co. Dayton, Ohio.
Coa Nut 346
Crown Princess 337
Crystal Honey 346
Elk's Bouquet 346
Expert 286
Glycerated Tar 346
Heliotrope Ideal 334
Hy Lo 96
Kaska Bouquet 346
Le Fameux 16
Le Fameux Rose de Seville 16
Le Fameux Violette de Sevill 16
Le Fameux Peau d'Espagne 16
Le Fameux Jockey Club 16
Little Sweetheart 346
Marvelo, Natioval Process Co, Rochester, N. Y.
May Field Bouquet 346
kina Skin 346
Mox-Nix 340
Naptholive 340
Natnral Gas 340
Old English Brown Windsor 346
Ox Oil 340
Peace 340
Red Raven 346
Rose Immortelle 334
Royal Lily 16
Safeguard Carbolc 53
Sayf Syde, Sayf-Syde Soap Co., Cincinnati.
Sentry 340
Solos Laundry, Nelson Mfg.Co., Iowa City, Iowa
Uncle Sam's Floating 120
Violette Grandfleur 334
Wego 96
White Wonder 346
World's Work 53
Zo-Zo White Tar 346
Shampoo Tar—Brown Soap Co. Dayton, O.
U-Lika-Me 286
I-Lika-U 286



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H. W. DOPP CO., 1300-1310 Niagara St., BUFFALO, N. Y.

SUPPLEMENTARY LIST
OF THE
BRANDS OF SOAP MANUFACTURED IN THE UNITED STATES
Including also the Brands of Foreign Manufacture Registered as Trade-Marks in this Country.

NOTE: This list is compiled with the greatest possible care, but the publisher does not assume any responsibility other than to correct and to complete the list according to data obtained from official sources or furnished by the trade. Brands registered in the patent office as trade-marks or labels are given with the name of the party registering same. Brands or names marked * are those which were found to be used by more than one firm or the owner of which could not be ascertained. ☞ SEE THAT ALL YOUR BRANDS ARE ENTERED IN YOUR NAME.

344 Home Soap Co., N.Y.
345 Columbia Ref'g. & M'f'g Co. Ltd, New Orleans.

Abrado, Floridine Mfg. Co., New York.
A Happy Home 4
Amazon Coco 337
Angelus 54
Antillia 2
Anty Up 340
Apple Blossom 337

Beauty Belle 115
Bell's Brown 343
Billy-Goat 340
Blue Chip 340
Blue C oud 2
Blue Coco 340
Blue Family 340
Blue Monday 340
Blue Olive 340

Calcutta Castile 337
Chlorine 340
Cleaneasy 286
Climax Chip 54
Cloth Pin 340
Cloths Pin 340
Credential Shaving Stick 16

Dactylis 11
Dermicura 327
Durango Best, Durango (Colo.) Soap Co.

Empress Eugenie 115
Empire Geranium 837
Eucryl Eucryl Ltd., Hull, England.
Evergreen 286

Facine 340
Fairbank's Primrose 2
" Scouring 2
" German Fam. 2
" Glycerine-Tar 2
" Mottled Germ'n
" Olive 2
" Navy Blue 2
Federal Family 1
Floral Feast 115
Flannel 2
Flip 345
Force, Cincinnati Soap Co., Cincinnati, Ohio.
Fragrant Honey 2
Frog 340

Gem Wash. Compound, Clara Pearce, Philadelphia.
Georgia Oleine 29
Geyser 343
Gloriola 29
Gold Seal Soap Flour 340
Goodhair, Goodhair Remedy Co., Newark, Ohio.
Green Olive Chip 340
Green Palm 340
Green Seal Chip 340
Gusher 340

Hard Maple 155
Helix 54
Hi Lo 96
Horse Oil Harness 340

Idyllwild 54
Ilo-Ilo 340
Iroquois Maiden 115

Jack & Jill 340
Jack Pot 340
Jewel 2

Kazan 343
Kimola, Bell Mg. Co., St. Louis, Mo.
King Solomon's Rock Oil S. Mnross Jenkins, N. Y.

Lakeside (Scouring) 2
La Mariposa 54
Lasco Napthol 54
Last Long 286.
La Virtho, John S. Nichols, New York.
Lemola Toilet, Lemola Soap Co., Los Angeles, Cal.
Lemolive 54
Lemonine, E. H. Kraut, Cincinnati.
Limberine, E. A. Warren, St. Paul, Minn.
Lion 2
Long Shot 345

Madeira 16
Madeira Almond Cream 16
Madeira Cucumber Cream 16
Madeira Lettuce Cream 16
Madeira Olive Cream 16
Marjorie 337
Marveline 300
Maxine Elliott 337
Mentholatum Corn Oil S. 169
Mexicano 54
Michigan Family 2
Mildred 337

Naphtha Toilet 340
Naphthal 340
Napthol 340
Next-To. Phoenix Chem'l Co. New York.
Nolabor 340
Noxlabor 340
Noxwork 340

Orinoco 337
Orris Unscented 337
Otis Lightning, C. H. Waterhouse, Essex, Conn.
Oxolive 340
Oxigen 340

Palmo 340
Palm Oil S. Powder 340
Palm Soap Flour 340
Parisian Toilet 54
Passion Rose 298
" Violet 298
" Pink 298
" Lily 298
Peach Blue 340
Peerless Country Club 337
Peerless Forest Violet 337
Peerless Lily of the Valley 337
Peerless New Mown Hay 337
Pen Yen 340
Perfecto 121
Plantol Lever Bros., Limited Port Sunlight, England.
Pony Up 340
Premium, Davenport (Iowa) Soap Co.
Premium W. Powder, Davenport (Iowa) Soap Co.
Preventionette, Willard Chemical Co., Malden, Mass.

Quick and Easy 56

Rex Cremo 340
Rex Family 340
Rex Liquid Soap 340
Rexolene 340
Rexolive 340
Rockford Scouring 2
Rubbo, Lever Bros., Limited, England.

Sani-Tari Skin, Citizens Wholesale Supply Co., Columbus, O.
Santa Rex Castile 2
Savon Carnation 337
Savon Heliotrope 337
Savon Lilac 337
Savon Queen Regent 337
Savon Quo Vadis 337
Savon Rose Marechal Niel 337
Savoy Alpine Violet 337
Savoy Carnation 337
Savoy Jockey Club 337
Savoy Primrose 337
Sentinel 340
Sorosis 340
Stainoff, D. M. Steward Chattanooga.
Stainilgo, Kendall-Davis Co., Boston, Mass.
Star Mottled 2
Success Scouring Sand Soap Tacony Soap Co., Phil'a
Sweet Blossom 2

Tew-Fer 96
Tode 340
Toula Toula 334
Trash Mover 286
Twin 2
Two Jacks 340

Vestal Carnation 16
Vestal Lilac 16
Violet de Parme 287

White Fairy 2
White Pine Castile 344
Windsor 2
Winner 29
World's Fair 2

Yellow Dog 340
Yellow Palm 340

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AND

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The AMERICAN SOAP JOURNAL AND MANUFACTURING CHEMIST is devoted to the interests of all manufacturing industries of a chemical character, and is an absolutely independent publication. It is the only newspaper of its kind in America and has also a large foreign circulation.

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Communications on industrial subjects, news items, and any information suitable for printing in these columns, are solicited and will have due attention.

Readers in search of machinery, supplies etc., not advertised in these columns, are invited to write us and we shall endeavor to supply the information.

Address all communications to

DR. HENRY GATHMANN, Publisher,
2707 NORTH AVENUE,
MILWAUKEE, WIS., U. S. A.

A German soap machinery house has brought out a new "Seifenpulverpacketfuellmaschine." For the benefit of those who do not read German we would state that what, from its weird name, might be suspected of being an instrument of torture is in reality only a harmless soappowderpackagefillingmachine.

Men grown old in the manufacture of soap can remember how in their youth they used to read about the saponification of mineral oils. The problem has not been satisfactorily solved as yet, but new trials are continually being made. We publish two more accounts of such attempts this month—for what they may be worth.

A "shoe soap" has been placed on the market which is designed to cleanse and then to give a polish to shoes. It is to be used with a brush and then with a cloth to polish. The Gorada Co. of Philadelphia are named as the manufacturers. We have not seen a sample, but suppose it to be somewhat on the order of harness soaps.

The U. S. Steel Corporation uses large quantities of palm oil in the manufacture of tin plate. It is now intended to make this oil, after use, into a soap stock.

"Of the making of brands there is no end." Since publishing our complete list of soap brands in 1902 (the book comprising 128 pages), we have had to add on an average about four new brands on every page.

It is to be understood that the supplementary list appearing in this paper is made up of the new additions and that therefore our list in book form and our latest supplement at all times give you our complete list!

We publish in this issue an article "On the Cleansing Power of Soap," by H. W. Hillyer of Madison, Wis. In kindly sending us a reprint of that article, the writer states: "Nothing would please me better than to have this article brought to the attention of the practical soap workers. If they do not agree with my conclusions, I would be glad to know of their objections and hope the comments pro and con may be of enough interest to be printed in the JOURNAL."

The subject in question has been written on repeatedly in this paper by different writers, but Mr. Hillyer

has treated it in quite a novel and original manner, and as the last word on this problem has evidently not been spoken yet and as it will ever remain an important and interesting one, we shall be glad to print comments on the present article.

We learn from an English exchange (Oils, Colours and Drysalteries) that T. S. Timmis, Esq., J. P., for many years president of the Northern Soapmakers' Association of England, has retired from that position and been succeeded by Mr. W. H. Lever.

The association presented the retiring president with a magnificent silver casket, containing the address copied below. Mr. Lever, in presenting the casket, stated among other things that "Mr. Timmis had filled the position of president with the single-minded purpose of seeking the best interests of the whole of the soap trade of the United Kingdom."

Another speaker, Mr. Edward Simpson, remarked, "The personal knowledge of each other amongst the members had been the foundation of the success of the association."

Mr. Timmis, in reply, emphasized the value of such an organization for the good of all connected with the trade. To-day the soap trade was better, more lucrative, and more pleasant one than it used to be. The association had done incalculable good to the trade, and had realized the idea he had in his mind when he first took an interest in it. He urged his hearers to do their best to maintain the association in its integrity, not only for their own good, but also for the interests of the public.

The address above referred to reads:

We, the undersigned members of the Northern Soapmakers' Association, desire to express our warm appreciation of the valuable services you have rendered us as president for so many years.

During the long term of your presidency you have spared neither time nor labor in the conduct of its affairs, and to your ability, care and devotion to its interests, combined with your unfailing courtesy, is to be attributed the success of the association, and the substantial benefits which it has conferred upon the trade.

These achievements of the Northern Soapmakers Association, as well as the strong sound position which the association now occupies must, we feel, be to you a source of gratification.

In asking you to accept the silver casket which contains this address as a slight token of our appreciation and regard, we earnestly hope that you may be spared for many years to enjoy the respect and esteem of your numerous friends, and all those associated with you, which you have always so deservedly possessed.

(Signed) Ogston & Tennant, Ltd., Wm. Alexander, Managing Director; John Harrington & Sons, Ltd.; The United Alkali Co., Ltd. (Hazelhurst Soap Works), Parcy Bateson, Manager; William Gossage & Sons, Ltd., Fred H. Gossage, Manager; The East Lancashire Soap Co., Ltd., Joshua Hucking, Director; Thomas Hedley & Co., Ltd.; Hodgson & Simpson; Lever Bros., Ltd., W. H. Lever, Chairman; Isdale & McCallum; David Thom, Domeiers & Co., Ltd.; Tyson, Richmond & Jones; Christ. Thomas & Bros., Ltd., H. Russell Thomas, Director; Joseph Watson & Sons, Ltd., Joseph Watson, Director.

A well-todo young man in Chicago, finding many obstacles in meeting his sweetheart (who visited the Evanston High School), adopted the expedient of peddling soap—taking in his adored as a partner. Together they made a house-to-house canvass, "combining business with pleasure," thus contriving to pass many hours together every day without objection from the unsuspecting parents.

Add this to our list of uses for soap, published some time ago.

Another Chapter On "May We Laugh?"

BY GEO. A. SCHMIDT, CHICAGO.

July 4, 1903.

Dear Dr. Gathmann.

Just home from a prolonged trip, undertaken for the purpose of becoming personally acquainted with some members of the various classes of our trade, I feel I cannot celebrate the 4th any better than by giving you a final report of the results of my journeys, which include every corner of the U. S., from New Orleans to Los Angeles, via San Francisco to Portland, Seattle, Butte, Duluth, the Atlantic coast cities and all larger cities between these points. My desire, to get familiar with the ideas of soap manufacturers in regard to the future of our trade, has been gratified; the result is that to-day I believe tthe wisest thing ever written in your JOURNAL was the question, which heads an essay in your May issue, page 177, wherein I was held up to ridicule, and which reads "May we laugh?" More than once, when leaving the office of a "brother" soap manufacturer, I had to smile all to myself and whisper: yes, *we may laugh*, and heartily too! Perhaps I do this from another corner of my mouth than the originator of the question, but let the reader judge for himself, after I have sketched the outlines of a few of my interviews.

While in Europe last year, attending the meetings of German soap manufacturers, I was struck by new ideas for decomposing fats at much less expense and more practical for smaller manufacturers than those practiced in the U. S. at present. I know I could buy the process and obtain inside information to better advantage than

anybody else, because of my speaking German and owing to my communications to German trade papers, and because I am known to German soap makers. I explained this to our largest and wealthiest soap manufacturers. "As soon as you demonstrate to us right here in our factory the advantages of the new process and show us how much we can save, we will consider whether we want to buy the process or not" was the reply.— I left and said to myself "We *may* laugh!" At the next largest plant I visited (also with millions at their disposal) I had the same experience; incidentally I asked "Can you afford to sell at your present quotations and make a profit"? After some hesitation I was answered: "No, we do not make any profit now, but when our new plans are executed, our capacity will be so large that we expect to make a few cents on every box; of course those manufacturers cannot compete who make a few hundred boxes daily; we expect to sell many thousands and thus make money." I felt like laughing outright at these smart and extremely busy people who have no time to remember and comprehend the simplest facts taught by the past. What do they suppose "the others," those whom they deprive of making an honest living in their trade, will do while they are "making money"? The future will answer that question!

The writer has so much confidence in the future of our trade, that he went to Europe after receiving a letter stating that English capital would control the new processes if I did not purchase at once. I obtained the information I was after and am in a position to give your readers an outline of the new process of deglycerination of fats, thus confirming my former essays wherein I stated that the knowledge of chemistry, while very valuable and desirable in the soap factory, is being superseded by advanced knowledge. Progress proceeds in circles; that is, we have to come back occasionally to the same place, before we proceed further. As the latest and most important discoveries in medical and other sciences are founded on a better knowledge of germ life, so is the new process of decomposing fats founded on fermentative action. As every soapmaker knows, fats decompose quicker when in contact with certain ferments; fresh butter imperfectly freed (washed) from adherent moisture, etc., turns rancid quicker than "rendered" fats; the heat destroys the germs—ferments—and drives off moisture, both of these are aids to decomposition. In the new process certain ferments (decomposing agents) are added to fats kept at a temperature which barely diquifies them; higher temperatures would kill the germs; *gentle* agitation, just sufficient to bring the added ferments in contact with every particle of the treated material is all that is necessary to completely separate the glycerine from the fatty acids; not only are the materials kept from getting dark-colored, but in many cases the process also separates the coloring ingredients, so that a light colored soap can be made from cottonseed foots even.

Because the *best* results may be had by following the ideas so often explained in THE AMERICAN SOAP JOURNAL, (*proper* co-operation and "Division of Labor," etc.), a number of German soap manufacturers have combined and are erecting at Mannheim an establishment wherein the fats they use are treated by the most improved process. (Any intelligent person who knows something about the subject must realize that the different fats must be treated differently and careful, *intelligent* supervision is necessary. Germs which live, multiply and act very energetically in one instance will not do so in other cases, just as yeast will sometimes make the bread ferment quicker under certain conditions.)

American Soap Manufacturers may learn from their European colleagues. I was sorry to be too late to listen to what propositions were to be made at the meeting called recently. Your JOURNAL, containing notice thereof, was sent to Europe, but I have not yet had the time to post myself on what was done; I will, however, add a few words to my former expressions on the subject. I said above "Progress moves in circles," and if we want to advance we must bear in mind how even in school we had to review the work done, to repeat the lessons of the past. This is an excellent habit to cultivate in after life.

Associations had their beginnings or examples in the herd; animals *clubbed* together, the *club* is still used by our "Unions." Although "Union" signifies a firmer combination. (Fats, oils, lye and agitation—boiling, stirring—combine into soap, form a union.) None of these names, however, are good enough for the "Assemblies" of the future. Let soap manufacturers post themselves on what *"Organization"* really means and let them *do* what the word means, that is, let a number of those suitably situated combine into organizations and the American soap manufactuers' *Organizations* will revolutionize the soap trade of the world *to the advantage of humanity at large* as well as to their own.

Imagine a body of men, each of them expert in his line, one the chemist, the other the soap-boiler, a perfumer, a skin specialist, distributors, managers, office men, credit managers, etc., how much better such *organizations* could serve their fellow-men than the corporations whose members follow those principles at which every intelligent, well-informed person must laugh. In order to get some recreation out of my European trip, I had chosen a slow steamer and, for the first time for a quarter of a century, reread some books which had taught me in my youth to follow the principles which have guided me all my life. Hundreds of years ago similar conditions prevailed in the industrial world as are to be observed now. Would-be monopolists

existed in all times, but they failed miserably. Not to do certain work with *less* help, but to *provide* SATISFACTORY, INTERESTING AND REMUNERATIVE WORK FOR MORE PERSONS must be the aim of organization. Woe to the future of our country if this is not realized in time. If, instead of "cutting prices" and scheming how to get away the trade from our colleagues we would endeavor to improve the condition of mankind by furnishing *better* means wherewith to remove minutest waste matter, we all could do a more satisfactory business.

One more example how "Progress moves in circles." Some twenty odd years ago I called attention to the fact that "dirt" (germs, microbes, etc.), darts away as soon as good soap decomposes in water; in other words, soap acts a good deal like effervescent salts when water is poured on it; or to cite the most forcible example, like the decomposition of your powder, if the powder is left lying loose there is no or not nearly as much effective work done as if the powder is placed in a gun barrel and exploded (decomposed) there; you *"may laugh,"* dear reader, while reading these examples of how an organization of soap manufacturers might prove profitable for every one concerned; you may also laugh at my foolishness for making public the results of my life's work. (This has been told me by more than one of the soap manufacturers I visited.) *They* would not be so foolish to write anything for publication. Well, "chacun à son gout," says the Frenchman.) The liquid, etc., preparations I make which are to be massaged into dry skin and then decomposed while in the depths of the skin (gun-barrel fashion) cannot be imitated anyway. Many have been the imitations of my originations, but they are like branches dropped off a tree, they soon wither because they are without life, the *spirit* is missing. Organisms live, grow and prosper. Unnatural endeavors are doomed. Let the massacres in Russia, the success of the Social-Democrats in Germany, the fights between capital and labor in our own country, and similar occurrences be warnings to the gatherers of wealth. Capital is no more than the offspring of the union of labor and intelligence. Organizing means the bringing about harmony between mental and physical functions. Let the soap manufacturers of America *organize* and set an example to the world how *real* progress moves.

Organizations should not be of the lower order; they should be able to, and should talk: the massaere of Kishineff was damnable, of course; the lower classes, the ignorant, had imagined the Jews had wronged them; if such terrible consequences follow imaginative wrongs, what will happen if *real* wrongs drive the working classes to desperation; nothing but enlightening the ignorant, proper education, will prevent similar occurrences. Individuals cannot afford to spend money for such purposes. *Organizations* of the different trades should spread knowledge each in its own sphere. This is another plea for new soap manufacturers' organizations following different ideals than the unsuccessful ones of the past. Another idea was forcibly impressed upon my mind by a Bavarian peasant up in the mountains, where they live from the money tourists spend there; he was very intelligent, and amongst other things he said, "You folks travel all over the world in search of business, we make our homes and country beautiful so we enjoy it at home, and besides you come to us and bring us your money." I thought, "If soap manufacturers would organize, make better soaps in better appointed, more sanitary factories, wouldn't there be similar results?" ——— ———.

The Rosin Situation.

JACKSONVILLE, FLA., July 22, 1903.

Editor AMERICAN SOAP JOURNAL.

DEAR SIR: I have not on hand yet all the data for a contribution bearing upon the "consequences" of the "echec" already announced, but I think that for the sake of a true comprehension of the matter to be treated subsequently and for the sake of a full and clear understanding of what has been done, and of the magnitude of the work, it would be advisable to publish in your issue of August the letters I have from Mr. Cromwell Gibbons, the speaker of the House of Representatives, and Hon. Robt. McNamee, the legislator who had taken the matter in hand and who has made such a brave fight. I enclose these letters, marked respectively "Exhibit A, B. C. D. E."

Cordially yours,

E. MOULIE.

EXHIBIT A.

THE LEGISLATURE OF THE STATE OF FLORIDA.
HOUSE OF REPRESENTATIVES.

TALLAHASSEE, April 15, 1903.

Mr. E. Moulie, Jacksonville, Fla.

DEAR SIR: As Speaker of the House, your communication of the 13th inst., in regard to turpentine industry and others matters, directed to the representatives of Duval County, has been handed to me for disposal.

By his request I have turned the same over to Representative McNamee of Hillsborough, who says he has in preparation a bill providing for legislation of the character you suggest and who will present your letter to the Legislature, in connection with his bill.

I presume you will hear from him about the matter.

Yours very truly,

CROMWELL GIBBONS.

EXHIBIT B.

TALLAHASSEE, April 15, 1903.

Mr. E. Moulie.

DEAR SIR: Upon my earnest request, Speaker Gibbons has given into my hands your communication, addressed to the representatives of Duval County, in reference to the matter of restraining turpentine operators from practicing their present destructive methods of "boxing" pine trees, adulterating turpentine spirits, etc.

I am deeply interested in this subject, and in the near future propose to introduce a bill or bills to correct this shameful injury to our forests in the interests of a trust and at the expense of the whole people.

I consider your article to be an able exploitation of the subject, calculated to appeal to the best instincts of our legislators, and which I shall present to the Legislature in connection with my bill.

Now, what I especially desire to ask is, are you willing that I use in printed form and with your name signed thereto, your letter, for distribution among the legislators and to the press of the state, including your references to well-known gentlemen connected with the turpentine industry? Also are you willing that I shall use extracts from the same, at my discretion? You must understand that it is only by the widest publicity and concerted movement that we can accomplish anything against such powerful interests. I must ask for an immediate reply, and oblige,

Yours very truly,

ROBT. MCNAMEE.

EXHIBIT C.

THE LEGISLATURE OF THE STATE OF FLORIDA.
SENATE CHAMBER.

TALLAHASSEE, April 24, 1903.

Mr. E. Moulie.

DEAR SIR: I have your letter of the 18th, also the various data in reference to the turpentine question.

I consider the same of great value to me in the bill I am about to present and shall make free use of it. I am pleased by your attitude in regard to the publication of your letters, etc. I believe such publication will materially aid the cause.

Please give me a little more accurate idea of the actual mode of operation, according to your ideas, if the "cup" system can be made mandatory in this state. I want to know about the height of the cup from the ground, how much and how deep the chipping and scraping, how high up the tree, whether on one side or two, etc. Just as if I was going out in the woods and going to demonstrate the preservative system.

You, of course, must observe some secrecy about my intentions until the bill is introduced. I propose to make it the strongest, most radical instrument the Constitution of Florida will permit.

ROBT. MCNAMEE

P. S.: I am led to understand that, due to present methods of boxing, the tree does not give sap over 3 or 4 years. In what condition is it after such treatment? Is it available for lumber? Outside of its danger from fire and high wind will it live and always be good lumber?

Are the methods of gathering sap, disposal of the residue after distilling, etc., still practiced? That is, is there still such frightful waste as would warrant the following from your copy of the SOAP JOURNAL of January, 1891?

"Beside every still can be found tons and tons of rosin gone to waste, and what with this and the waste of sap that does not reach the boxes and of that which is flirted over the ground and all other waste put together there is doubtless a loss of half the product of the orchard."

I must know absolutely if this is still true, that the practice here in Florida by those in the "Consolidated is such. (Note: It is so.—E. MOULIE.)

EXHIBIT D.

TALLAHASSEE, May 16, 1903.

Mr. E. Moulie, Jacksonville, Fla.

DEAR SIR: Your of the 15th, requesting me to call at your house Sunday next, is forwarded to me here.

It would give me great pleasure to comply but for the fact that I am not going to Jacksonville this week.

I presume you are getting anxious to hear from the turpentine bill. I had it in mind to write you about things yesterday, but did not find the time.

The gathering of data, etc., including your letter to the representatives is just finished and ready for the printer. I think the subject matter will shake up the old bones. (Note: It has.—E. M.)

Mr. McNamee is now at work on the bill, which he hopes to introduce early next week. It has been arranged on the House Calendar so that the bill will find a good place. He is going to try to have this information I have been gathering, spread on the House Journal, at the time his bill is introduced.

You will hear something drop about the middle of next week I think. If there has anything come up recently with you that will be of any interest or benefit, don't fail to send it along. (Note: I sent lots.—E.M.

Yours very truly,

LEWIS J. CARDER, *Clerk.*

EXHIBIT E.

TALLAHASSEE, June 3, 1903.

Mr. E. Moulie, Jacksonville, Fla.

DEAR SIR: I have been intending to write you of affairs here for some time, but have been giving all my time to the fight for turpentine measures in the house.

To sum things up briefly, they are too strong for us, but the people will wake up some day and realize what their Representatives have done in opposing legislation for the preservation of the forests, and then there will be a reckoning. We have them all on record.

Mr. McNamee has been trying for weeks to create a sentiment in favor of his bills, and to that end has held off the cup system bill until the last. The bill was introduced Monday, but judging from the treatment that others bills in this direction have received, it will not pass.

Mr. McNamee has introduced two turpentine bills previous to this to make adulteration impossible and to appoint inspectors, etc., but both have been turned down, the last by an overwhelming vote. Two bills of similar character have met the same fate in the Senate. He made one of the finest speeches last week, in support of his pure spirits bill, I have ever heard, clear, logical and convincing, using every argument that lies in such a subject, but it was no use. We can read "the writing on the wall," it is idle to hope that the cup system bill will fare any better.

On the other hand, the Turpentine Operators' Association had a pure spirits bill introduced last week, *which means nothing to anybody but themselves,* and it passed the House by a big majority, and I presume will fare likewise in the Senate. (Note: It has, of course.—E. MOULIE.)

Mr. McNamee is now fighting to have spread on the House Journal the data we have compiled on this cup system question, which includes your letter to the Representatives. It is possible that he will succeed in this and thus have an official record of the argument that the Representatives have turned down. (Note: He has succeeded in that.—E. MOULIE.)

He wishes me to say to you that this is not by any means the end of the story. This matter of preservation of the forests and the methods of the naval stores people will be an issue in every political campaign from now on, until the people know how they are being robbed. He will carry the issue into every county in the state, and you may be sure that it will win in the end. This is the reason he wants an official record of it all, and the enemies of this bill will have it shoved home to them from now on. *He wishes me also to thank you for the very valuable assistance you have rendered to him, by your counsel, your papers, etc. He feels that he could not have accomplished much without such. As it is, it does not seem much,* BUT WE ARE SURE IT WILL BEAR FRUIT. (Note: So says the Speaker of the House.—E. MOULIE.)

It has been a losing fight all through. Committees against him as well as the sentiment of his associates. From my own standpoint I think it was a great fight and he went down with flying colors. Of course, there is always a possibility that the unexpected will happen. If so I shall send you full information. (Note: It did not happen; the bill did not pass.—E. MOULIE.)

I am returning to you, by registered package, your papers and letters, also a copy of all the data we have used; a copy of the last bill and other odds and ends. I think you will realize from them the hard work we have put in. With best wishes, I am

Yours very truly,

LOUIS J. CARDER.

Adulteration of Soda Crystals In England.

HABANA, June 28, 1903.

To the Editor of THE AMERICAN SOAP JOURNAL.

SIR: The reprint on above subject from your contemporary, the Chemical Trade Journal, in your issue of June 1, that sal soda makers in England adulterate sal soda by crystallizing along with it Glauber salts, seems ludicrous to anyone conversant with sal soda making.

Your contemporary is probably right as regards wholesale or retail dealers, for it would be profitable for them to buy Glauber salts at £1.6 and sell it as sal soda which costs £3.10.

But where your contemporary seems to be all at sea is when he accuses sal soda makers with adulterating their soda crystals with Glauber salts costing £1.6 whilst the purest of sal soda at present prices of soda ash hardly costs them £1 per ton, and so they would be throwing away six shillings per ton in order to adulterate their pure product, which would be ridiculous on the face of it.

Adulteration is resorted to in order to *cheapen,* not to *increase,* cost of product. Sal soda or soda crystals are certainly adulterated with the above object, and England does not by any means hold the monopoly on this score, but *not with Glauber salts.* These will answer very well for the dealers, but not for the sal soda makers, and the Chemical Trade Journal may safely "guess again."

So-called adulteration often improves the quality in use of goods adulterated; take soap, for instance, no sane man will pretend that soap judiciously filled or adulterated with sal soda and silicate is not in use a

better soap in every way than a perfectly neat and pure soap would be; it cleanses better and quicker.

It is a well-known fact that it is not the fats or rosins, etc., in soaps that do the washing, but the alkalies they contain do, do it by being set free.

The public always cries out for low-priced goods, and surely for his protection the manufacturer is compelled to produce goods for the price obtainable, if not he is sure to get milled.

Yours respectfully,

A. D'ESTAMPES.

"Sunshine" Soap Brands.

BUFFALO, N. Y., July 8, 1903.

Dr. Henry Gathmann.

DEAR SIR: We beg to submit a news item that should be of general interest to the soap trade, for publication in your paper. You will remember that in a recent issue of your paper there was published the news reciting our victory in our contention that we were the exclusive owners of the trade-mark and trade name rights appertaining to "Sunshine" soap.

We have another victory to record, over Messrs. Morris, Butt & Muller, soap makers of Kansas City, who were infringers of the same trade name. We beg to append herewith copy of their letter, which is an absolute concession of our rights to the name "Sunshine" as applied to soap. They have until recently put up a package under that name, but in compliance with our request have discontinued to do so.

Will you kindly publish this news item together with the facts as stated and permit us to extend to you our sincere thanks for this courtesy. We are,

Sincerely yours,

A. HOEFNER & SONS.

[Copy.]

KANSAS CITY, U. S. A., April 17th, 1903.

Messrs. Macomber & Ellis, D. S. Morgan Building, Buffalo, N. Y.

DEAR SIRS: In replying to yours of the 7th inst., will say we wish to advise you that from this date we shall discontinue the manufacture and sale of our brand of Sunshine soap, substituting another name but retaining the originality of the present style of package and wrapper. Yours truly,

(Signed) MORRIS, BUTT & MULLER,

By A. Muller.

Soap Trade In Australia.

EDITOR AMERICAN SOAP JOURNAL:

The *Soapmaker and Perfumer* have got quite wrong when they say that while the Australian soapmakers are quarelling the Americans are doing the trade. When Sydney was a free port, an extra amount of American toilet soaps found their way there, and people in all the states use some of the best known American makes and pay the customs duty under the belief that because they are made in the Northern Hemisphere they must be superior to what their local factories turn out; but to say that the trade is being done otherwise than locally is the absurdest of the absurd.

Australia is manufacturing her own soaps, and will continue to do so. Being a country which exports tallow, ordinarily in large quantities, our prices are sufficiently low not only to hold our own local trade with a tariff round us, but to do a pretty considerable export trade in the Pacific and Asia.

I am, Sir, etc.,

$Na_2O.OH_2$.

Patriotic Soapmakers.

HABANA, June 30, 1903.

The Editor SOAP JOURNAL.

DEAR SIR: Your correspondent, Mr. Geo. Schmidt, in your issue for June advises us all to talk about soap and enlighten our brethren in the trade who may most —likely know more than us.

Mr. Schmidt is quite right. I do not think, after 40 years of world-wide experience, that there is any calling on which there is so much to learn as on soaps; after 40 years of constant practical observations, I am painfullly aware that I am most grossly ignorant on the subject of soaps, though I have made millions of tons of it.

According to me then, the lather Mr. Schmidt talks about is produced not by the soap itself, but by the alkali set free contained in soap; the more easily a fat lets out the alkali, the more quickly and copiously it will lather, and we have only to turn to cocoanut oil to see this, which is the fat that holds in combination the greatest amout of alkali (about one-quarter of its bulk), so it stands proved beyond the shadow of a doubt that it is the *alkali* contained in a soap that lathers and cleanses and *not the soap itself;* out of the suds, from which the grease that constituted the soap in combination with the alkali, can be and is recovered *so it remains grease* once set free from the alkali, and grease cannot lather or wash.

The more alkali a soap contains, the more easily and the more quickly it will cleanse, and it only remains for the practical soapmaker to devise some means by which he can incorporate the largest amount of alkali without burning the skin when used; that is the problem to solve. I certainly do not pose as an authority in the matter, for as I have said above, I consider myself as a most grossly ignorant soapmaker, who knows nothing whatever about chemistry, and all I say is my opinion gained

by practical observations. I will be glad to have Mr. Schmidt or any other gentleman set me right if I am wrong, which I most probably am.

Yours respectfully,

A. D'ESTAMPES.

[In printing the above communication we cannot refrain from pointing out that alkali in watery solution lathers no more than does grease in water. But soap and water alone can form a most perfect lather. To our mind, then, these facts alone prove that it is neither the alkali nor the grease that lathers or cleanses, but either the soap as such, or whatever compounds it may split up into, when dissolved in water.—E. A. S. J.]

On The Cleansing Power of Soap.

BY H. W. HILLYER.

(Reprinted from the Journal of the American Chemical Society.)

Chevreul, the first to study the fats and soaps, discovered that when soaps are acted on by water they are hydrolyzed to free alkali and to an acid salt. The tendency of the reaction may be expressed by the equation

$$NaAc+H_2O=NaOH+HAc,$$

where Ac stands for the palmitic or stearic radical. The acid thus set free unites with more or less of the undecomposed soap to form diffieultly soluble acid salts which contain more and more acid in proportion to the alkali as the dilution of the solutions from which the salts separate increases.

Rotondi, basing his conclusions on a mixed soap, decided that when water acts on the soaps, there is formed an acid salt which is soluble with difficulty in cold water and a basic salt which is easily soluble. Recent work by Krafft and his co-workers have shown that Chevreul was correct and that Rotondi fell into error, probably because he did not take into account the fact that sodium oleate is readily soluble in cold water. It was probably a mixture of this with the alkali set free by the hydrolysis of the palmitate and stearate present which was called an alkaline soap or basic salt. The more current theories of the detergent action of soap are largely based on the undoubted hydrolysis of soaps by much cold water.

The most ordinary theory is that the alkali set free by the hydrolysis of the soap acts on the fat to remove it by a process of saponification. To show that this is illogical it is only necessary to call attention to the fact that the alkali present has the opportunity of making a soap in either one of two ways: First, by acting on the glyceride to decompose it or, secondly, by acting on the fatty acid or acid salt from which it has just been separated. That it will more readily react with the latter than with the former is clear, and since, while the dilution is great, this reaction with the acid salt does not take place but rather the reverse reaction, it seems entirely improbable that the hydrolytic alkali acts chemically, if at all, on the glycerides of the fats and oils. In the use of soap for cleansing, we prefer to use hot and strong solutions but the hydrolysis is almost certainly more complete when the solutions are dilute and have cooled enough to yield a precipitate of acid salt. In the hot solution, especially if concentrated, there can be but little free alkali. Finally, paraffin oils are washed away by soaps as well as the glycerides are, and in this case it is clear that there can be no chemical reaction of the alkali upon the oil.

C. R. Alder Wright assumes that the value of a soap is largely due to the alkali of hydrolysis acting in such a way as to allow contact of the water with the substance to be cleansed. Ladenburg's "Handwoerterbuch," Vol. X, p. 574, favors the theory of Knapp, which lays the cleansing power of soap to the property of the soap itself of easily wetting oily substances. Knapp's original papers are not available to the writer and his evidence is not known, but it may be easily shown by a simple experiment that it is the soap itself and not the alkali which gives aqueous solutions the power of wetting oily substances.

A piece of red litmus paper is thoroughly oiled with either purified cottonseed oil or a paraffin oil, and upon it is placed a drop of dilute alkali. The alkali produces a blue spot with well-defined edges, and spreads very slowly over the oiled paper. If a drop of soap solution is placed on the paper it spreads rapidly and soon produces a large spot with ill-defined ragged outlines.

Another suggestion as to the cleansing is that the soap itself or the alkali of hydrolysis acts as a lubricant, making the tissue and impurities less adhesive to one another, and in that way promoting the removal of the latter. It is not unreasonable to consider this as a factor in the cleansing, and it will be referred to again later.

It is often suggested, either as a distinct theory or as a more or less important adjunct to the saponification theory, that the alkali set free by hydrolysis acts on the fat by emulsifying it, and carrying it away in suspension with the other impurities. This suggestion has come apparently because those who have emulsified oils with alkali have used oils not free from fatty acids. It is also suggested that the emulsification is due to the undecomposed soap, but experiments are not recorded as far as can be ascertained to sustain this view or to determine whether the action is due to the soap or to the alkali.

When good cottonseed oil, "salad oil," is shaken with weak alkali it is largely emulsified, but by washing the emulsion with water and dilute alkali alternately for many times, the soap formed by the action of the alkali

on the free acid of the oil is removed, the oil separates from the emulsion, and a product is obtained which is not emulsified by decinormal sodium hydroxide. Neither is kerosene emulsified by decinormal alkali. Both kerosene and purified cottonseed oil easily make permanent emulsions with a decinormal solution of sodium oleate. From this experiment, it seems certain that the emulsifying power of the soap solution, is due to the soap itself rather than to the hydrolytic alkali.

The explanation of the action of soap as due to its emulsifying power is a plausible one, but no clear account has been given, as made current, at least, in chemical literature, of the physical properties which a liquid must have to be a good emulsifying agent. The great similarity between foams and emulsions in method of making and in properties, suggests the question whether any explanation given for the formation and permanence of foams will not also apply to the formation and permanence of emulsions. Plateau and Quincke have made extensive studies of substances which foam and of those which are emulsifying agents. There will be here no attempt to detail their results or to follow exactly their reasoning but the general trend of their work will be indicated. They have shown that soap solution has a surface-tension which is lower than that of any other aqueous solution. Its surface-tension is, in fact, only about 40 per cent. that of pure water. This may be shown in several ways. When two capillary tubes of the same diameter are placed respectively in water and in soap solution, the water will be seen to rise about 2.6 times as high as the soap solution. If a given volume of water is allowed to drop from a broad-ended pipette or stalagmometer and then a soap solution is allowed to drop from the same pipette, it will be found that the soap solution will make 2.6 times as many drops as the water. The cohesion of the soap solution is so small that the surface-tension will sustain drops of a volume only about 40 per cent. of the volume of those formed by water. Plateau lays the power of forming bubbles, films and foam to two factors; first, the liquid must possess notable viscosity, that the film may not readily yield to the forces which tend to thin it to the point of rupture; secondly, it must have a low surface tension since the surface-tension is the most active force in thinning the film. Soap solutions are ordinarily quite viscous, and this viscosity is increased in Plateau's bubble mixture by adding glycerin, which aids in making bubbles and films permanent. Soap solutions have a low surface-tension and, on account of those two factors, soap solutions easily yield and enduringly maintain films and foam.

Quincke has similar fundamental views, but ascribes the permanence of a foam to the mixed character of the liquid which foams, and claims that no pure liquid will foam. According to Quincke the permanence of the foam is due to the action of surface-tension which spreads out over the surface of the film some secondary ingredient of the solution, and this tends to close up any potential ruptures in the film. Plateau calls attention to the important part played by viscosity which pertains to the liquid itself, its internal viscosity, caused by the friction of the molecules of the liquid on each other and also of a second kind of viscosity, which he calls superficial viscosity, which sometimes makes the motion of a foreign body upon the surface of a liquid more or, on the other hand, less ready than within the liquid. Stables and Wilson have confirmed Plateau's work, and find that the motion of a body in the surface of a solution of saponin is resisted 600 times as much as it is within the same solution. By this great superficial viscosity they account for the great foaming power of saponin solution, although it has a comparatively high surface-tension.

To make these ideas clear a simple case may be used as an illustration. Suppose two bubbles of air to be lying side by side within a mass of water. The molecules of water at the point of nearest approach of the bubbles are acted on by the stress of the surface-tension of both bubbles, and this causes a thinning of the film between them. The surface-tension is great and the water is mobile so that the thinning will be rapid and soon the bubbles will coalesce by the breaking down of the membrane. If, instead of water, soap solution is present, the stress which causes thinning will be less on account of the much smaller surface-tension and the resistance to thinning, due to the viscosity of the soap solution, will be somewhat greater and as a result the bubbles will remain separate for a much longer time. In the same way a mass of bubbles will remain permanent longer in soap solution than in water.

A table is here presented showing some observations made by the writer in confirmation of the work of Quincke and Plateau. While they claim no considerable accuracy, they show in general the tendency which solutions of high viscosity and low surface-tension have to make foams. The figures in the second column show the number of minutes required for the volume of liquid contained in the stalagometer to flow out and consequently give a rough measure of the internal viscosity of the solutions. The third column gives the number of

	Time.	Drops.	Foam.
Water	3	47	—
Stale beer	..	79	+
Sweet skimmed milk	4	75	+
Saponin, 0.5 per cent	3	55	+
Albumen, 3 per cent	3	58	+
N/10 NaOH + equal volume alcohol	8	110	—
Glycerin, 50 per cent	14	60	—
Gum acacia, 6 per cent	8	49	—
N/10 rosin soap	3	104	+
N/10 sodium oleate	4	104	+
N/640 sodium oleate	3	108	little

drops formed from the given volume, when the drops were formed in air. In the fourth column the plus signs indicate that the solution makes a permanent foam and the minus signs that it does not. Water gives the smallest number of drops and has the highest surface-tension. The solution of sodium resinate and the solutions of sodium oleate give the greatest number of drops, and have the least surface-tension. That viscosity alone will not account for permanent foam formation is shown by the case of glycerin and gum acacia where there is high viscosity but also high surface-tension and no foam. Beer and milk have a higher viscosity and a lower surface tension than water and yield foams. The decided apparent exceptions are albumen and saponin, and alcoholic alkali. Saponin and albumen have, however, in a very marked degree, the property of surperficial viscosity, and this accounts for the persistent foam in spite of their low internal viscosity and comparatively high surface-tension. On the other hand, while the solution of alkali in dilute alcohol has a high internal viscosity and a markedly low surface-tension, the temporary character of its foam may be accounted for by the fact discovered by Plateau—that alcohol has a negative superficial viscosity. That the alcohol has the effect of diminishing foaming power may be seen by adding a small quantity to a soap solution, which then loses its foaming power to a marked degree.

EMULSIONS.

Can emulsification be explained by the viscosity of the emulsifying agent? In the case of very thick liquids like the gum solution used by the pharmacists, it is probable that the extreme viscosity is a very large factor in giving permanence to the separation of the oil droplets which have been formed mechanically. That even very large internal viscosity will not make an emulsion permanent is shown by the fact that 50 per cent. glycerin and 6 per cent. gum solutions which have viscosity of a high degree will not emulsify kerosene or even a viscous oil like cotton oil. Saponin or albumin solution with their high superficial viscosity will give permanent emulsions. Dilute soap solutions which have not great viscosity have very great emulsifying power, and the same is true to a less degree of some other solutions. From these facts it must be decided that internal viscosity of the liquid will not account for its emulsifying power.

It has been seen that foaming can be explained largely by the small surface-tension of soap solution towards air. Surface-tension phenomena show themselves between two liquids as well as between a liquid and air. The question arises whether there is any peculiarity in the degree of surface-tension between soap solutions and oils, not shown by other solutions.

Quincke observes that when a solution of sodium carbonate is brought in contact with an ordinary oil, phenomena are exhibited which he ascribes to the change of surface-tension between the oil and acqueous solution on account of the formation of soap. Among the phenomena accounted for in this way is that of emulsification. Quincke does not use pure oils or single soaps nor, except casually, does he refer to the low surface tension between oils and soap solutions.

To more definitely answer the question as to the relation of surface-tension and emulsifying power, experiments were made by the writer to measure roughly, by the dropping method, the relative surface-tension of water and of soap solution toward typical oils. According to Quincke a solution of Venice soap containing 1 part in 40 of water has toward air a surface-tension of 2.563, a solution of 1 part in 400 has a surface-tension of 2.672, and one of 1 part in 4000 has a surface-tension of 2.681. In other words, according to these careful determinations, concentration has very little influence on the surface-tension of soap solution in contact with air. With this constant and comparatively small reduction of surface-tension which soap solution shows as contrasted with water, it is interesting to compare the enormous and variable reduction of surface-tension shown when soap solutions of increasing concentration are allowed to flow through oils.

When cottonseed oil is allowed to flow slowly up through water, it makes much larger drops than are made when it flows up through soap solution. The same is true when kerosene is used. The surface-tension between the oils and soap is much less than between the oils and water. A much more convenient method of studying the surface-tension is to let the water or solutions flow down through the oils. In this work the greater number of observations were made with a stalagmometer intended as an alcoholimeter and holding 5.35 cc.

When water flows from a stalagmometer with its tip immersed in oil, large drops are formed. When a weak soap solution replaces the water, the drops are smaller. When stronger and stronger soap solutions are used, the drops grow smaller and more rapid, if the rate of flow of the liquid is not checked, until with a strong solution the rate of flow is too rapid to give time for the formation of separate drops and a very thin cylindrical stream flows from the stalagmometer. The surface-tension has become so small that it does not support the liquid long enough to form drops. In this case, gravity is strong enough to almost completely overcome the action of surface-tension and draws the solution out into a fine thread. It seems reasonable to suppose that any other outside force could easily break up this strong soap solution within the oil into small droplets, or spread it into films on account of the small surface-tension. According to the theory of surface-tension be-

tween two liquids, surface-tension will be great between them, when each liquid has strong internal attractive forces, that is, strong cohesion; and it will be small when they have slight attraction for one another, that is, slight adhesion or mutual affinity. Small surface-tension will be caused by a weak cohesion of at least one of the liquids and a strong adhesion or affinity of the liquids to one another. Water forms large drops in oil on account of its great cohesion and its small adhesion to the oil. Soap solution makes small drops or runs down a stream; because, first it has a low cohesion and, secondly, because it has a strong adhesion to the oil or a strong affinity or attraction for it.

(To be Continued.)

Freight Classification of Soap.

Following is a summing up of the findings and conclusions of the Interstate Commerce Commission in the case of Procter & Gamble Co. vs. the C. H. & D. R. R. et al., on the proper classification of soap, which suit was decided in favor of complainants in part:

"We have examined the evidence pertaining to the classification of common soap in carloads with great care and have found the facts which appear to be material to the disposition of that branch of the case. Such findings do not bear out the contention of complainant. Soap is analogous in character to articles of general merchandise, particularly those sold in the grocery trade, and which are all in the fifth or higher classes of the classification. It does not move in such great volume, or, to be more explicit, furnish the carriers with such great aggregate tonnage, as to distinguish it especially from other common articles of merchandise; nor is it so low in value as to take it out of comparison in that respect with other fifth class articles and place it in the category of low-grade freights which require the lower sixth class rating. It is conceded to be and is a very desirable traffic for the carrier, but equally so are canned goods, sugar, heavy iron articles and other commodities now included in the fifth class. In the manufacture of soap as conducted by complainant the shipment of large quantities of raw material and fuel is involved, and this furnishes additional traffic to the carrier, but the same thing is true of many other manufacturing industries. These findings, therefore, indicate that soap is a manufactured article of merchandise properly in the fifth class as distinguished from the mass of low-grade freights, cheap chemicals and raw products which are in class six and actually more under sixth class rates.

"A case involving the classification of hay in official classification territory has lately been decided in which it was held that hay is improperly in fifth class and should be carried as sixth class freight. Hay is a raw agricultural product having relatively low value, moving in great volume largely from the West to the East, and apparently furnishing the carrier with greater aggregate tonnage than any single article actually taking class rates, is entitled to transportation at the lowest class of rates. Soap as a manufactured article of merchandise not specially low or high in value, and moving under present rates freely in all directions from competing factories in various portions of the classification territory, and furnishing a large but not exceptionally great aggregate tonnage to the carriers, is also entitled to fairly low rates, but upon no reasonable basis of comparison can it be said to merit the low classification demanded by hay and which is given to numerous other articles now in the sixth class. It is possible, of course, to find commodities in class six which may be compared with soap to the advantage of the latter in some respects, and it is equally possible to find articles which have long been in class five that will compare favorably with soap in some respects, but, taking into account the method or system of classification, whereby the sixth class is designed to include only low-grade freights and the fifth class is made to cover the common grades of grocery and other general merchandise, and considering the other special facts set out in the findings, we cannot condemn as unlawful the classification of soap in carloads in class five.

"The carriers classified soap in carloads as fifth class freight originally, and only changed it to sixth class in compliance with our order in 1891. However limited the compulsory effect of an order by the Commission may be in the present state of the law, compliance with its requirements cannot be regarded as voluntary action by the carriers. There is nothing to show that the carriers would have changed soap in carloads to sixth class in 1891 or later if no order requiring that to be done had been issued. On the contrary, the carriers' representatives have insisted in this case most strenuously that they have always been dissatisfied with the order of 1890, which was complied with in June of the following year. However that may be, it seems clear that the presumption as to the reasonableness of rates long kept in effect by carriers as a voluntary act on their part does not attach in this case. It may be said, in view of the fact that orders of the Commission can only be enforced by action in the Federal Courts, that long compliance with an order of the Commission is in effect voluntary; but we think, when complaint is made to the Commission, and the case goes to hearing and decision and order against the carrier is issued with which they comply, that there is a marked distinction in the respect here referred to between rates thus established and like or similar rates applied by the carriers on their volition, and that this distinction is sufficient to remove the pre-

sumption of the reasonableness of sixth class carload rates for soap which would arise if such rates had been voluntarily accorded since June, 1891, without the intervention of an order by the commission.

"It appears reasonably certain that the remarkable increase of traffic which began about 1899 and has continued in enlarging volume to the present time would, at the rates in force prior to the advance of January 1, 1900, have furnished the carriers with net revenues equal at least to those received in any previous year. But this fact if fully demonstrated would not, in our opinion, be sufficient of itself to sustain complainant's contention or prove that fifth class rates for carload soap are unreasonable. On the other hand, we do not decide that the reasonableness of these rates has been affirmatively established. We regard the primary and controlling question in this case as a question of classification, that is, of relative rates, and dispose of it accordingly. In that view it is sufficient to hold that carload soap is not improperly placed in the fifth class and that fifth class rates therefor are not shown to be unlawful. So long as most articles entitled to as low rates as carload soap are put in the fifth class and required to pay fifth class rates, we are not warranted on the evidence before us in condemning the same rating for that commodity. This disposition of the case, however, will not authorize the retention of carload soap in fifth class if the classification of other articles with which soap is compared should be reduced, nor will anything now decided preclude the Commission from holding, in an appropriate proceeding, that fifth class rates in this territory are excessive.

"A materially different situation exists in regard to the classification and rates for less than carload shipments of soap. The new class inserted in the Official Classification on March 10, 1900, whereby 20 per cent. less than third class but not lower than fourth class rates are provided for less than carload soap and numerous other articles, operates with respect of soap to increase materially the rates paid by complainant and others in the section of the country about Cincinnati, and presumably the rates paid by other shippers in most parts of the Central West, while it advances in less degree or not at all the less than carload rates paid by soap shippers in New York City and other parts of the East. In other words, the application of a fixed percentage to varying and different rates has the effect of changing the relation of rates which before prevailed on shipments made by complainant and its competitors in the East to common territory. The fourth class rates for less than carloads were allowed by carriers in Official Classification territory for ten or more years prior to 1891, when they charged fifth class rates for carloads, and they also remained in effect during all the time from 1891 to 1900, when carload soap was sixth class. Soap in less than carloads, therefore, always had fourth class rates until January 1, 1900. A presumption that such rates are reasonable arises from the voluntary action of the carriers in keeping these rates in effect during such a long period; and that presumption has not been overcome, in our judgment, by the evidence presented in this case.

"Under the operation of the mixed carload rules, coupled with the increased less than carload rates, the meat packers who manufactured soap are not given advantages in their competition with complainant and other independent soap producers. The packers are thus enabled to ship in mixed carloads numerous meat and provision articles with less than carload quantities of soap at fifth class rates, while less than carload quantities of soap forwarded by complainant take 20 per cent. less than third class rates. The privilege of shipping small quantities of articles in the same class as a mixed carload is valuable to a great many shippers, and is not to be condemned because it may result in some degree to the advantage of particular manufacturers or to jobbers, but when it appears, as in this case, that shippers like complainant are subjected to additional disadvantage under the operation of a mixed carload rule through the increase in a long-standing less than carload rate, the effect of that rule is properly to be considered in determining the reasonableness and justice of such increased rate.

"The discriminating nature of the present less than carload rating of soap apparent, while a third class rate for less than carload soap is virtually conceded to be excessive and unjust. It follows that the carriers should cease and desist from enforcing the 20 per cent. less than third class rates on less than carload soap and from charging complainant and other soap manufacturers higher than fourth class rates upon such shipments of that commodity. A suitable order dismissing so much of the complaint as relates to rates on common soap in carloads, and sustaining that portion of the complaint which refers to rates on common soap in less than carloads and asks for the restoration of fourth class rates on less than carload lots, will be entered and served.

"Although this determination in effect condemns as unlawful the advanced rates on less than carload shipments of soap, we are constrained to hold, under all the circumstances of the case, that reparation by the carriers should be required."

Patent Oil Refining.

The importance of the processes of refining oils and fats with silicates has been recognized by the trade more and more of recent years, and the only stumbling-block to a more general adoption of these methods of refining

for almost every kind of oil and fat is the fact that even now there are comparatively few refiners who really understand the processes and can work them satisfactorily; those who are successful are naturally very slow at imparting any information to their less fortunate competitors; another drawback in certain districts to the use of these processes is because there are considerable difficulties in the way of getting rid of the waste material after use; this is more particularly the case in the neighborhood of towns where there is no convenient tip for the refuse in fact, in England, in the vicinity of cities like London the refiners are entirely prohibited from using these processes because of these difficulties.

There has been a great deal more investigation on a practical scale over devising suitable conditions for applying silicates in refining on this side of the water than in Grat Britain and the Continent of Europe and it might be said that these processes originated here; curiously enough, however, to-day the chief source of suitable silicates is Great Britain, where much of the best Fuller's Earth comes from. We have native silicates found in Ohio, Florida, etc., which, although differing very materially in appearance to true Fuller's Earth, they are not very different to it in chemical composition and are very excellent decolorizers for oils; it has, however, been found that they are apt to impart to many oils a disagreeable taste and smell, and cause the refined oil to become easily rancid than by the use of the English earth.

The Fuller's Earth only occurs in Great Britain in certain localities, chiefly in the south of England where it is known in two distinct varieties, the blue and the yellow, which are again subdivided in the two chief qualities, Surrey and Somersetshire. As its name implies it was up to the time of its introduction for oil refining almost entirely used for wool scouring, for which purpose it has been used, or at least similar earths, from time immemorial. In this direction it is still largely used, as although different ways have been devised for treating the woolen cloth, Fuller's Earth for many qualities is still preferred for cleaning the cloth from grease. The consumption of earth in this direction has not, however, increased in proportion to the growth of the woolen trade. The owners of the Fuller's Earth deposits were fortunate in finding a further outlet for their production, which trade was made through no ingenuity or enterprise on their behalf, in fact they scarcely know anything of the trade beyond supplying the earth, and knowing that some customers prefer one quality of a certain degree of fineness to other qualities, but for being of any assistance in opening up new ground and putting oil refiners in the way of using the earth properly and economically, their services are almost valueless.

The total output of Fuller's Earth in Great Britain is something like 24,000 tons per year and of this quantity about 60 per cent. comes to this country.

A recent patent obtained by Charles A. McKerrow, of the well known firm of Hart & McKerrow, consulting and analytical chemists, and chemical engineers, of 8 Exchange street, Manchester, England, offers great possibilities to the trade. Messrs. Hart & McKerrow have specialized for a great many years with these processes of refining both in the laboratory and on a large scale, and the patent is the outcome of years of study. It is for "Processes of Reviving Hydrated Silicates," No. 726,091, dated April 21, 1903.

The patent covers both the treatment of the original earths, silicates, etc., and the recovery of the material, after use, which latter is now a waste product, for use again; therefore readers will appreciate the great importance of the plant.

The process itself is simple and it is performed by heating the material in a suitably constructed retort in the presence of steam, superheated or not according to the nature of the material operated upon, and the result that is required, and finishing the operation in the presence of a moist atmosphere.

As already pointed out, our native earths fail in many purposes for oil and fat refining, on account of leaving the oil or fat with a disagreeable taste, and a tendency to turnig rancid quickly, but by subjecting the original earth to this process, Messrs. Hart & McKerrow claim that the whole of the deleterious matters contained in the earth which cause this effect are eliminated and the resulting earth can be used for all purposes of refining with the best possible results, even better results than the best English earth for cotton seed oil refining. This being the case, we ought to be able to use our own native earth without having to buy from Great Britain to pay import duties for the same, which amounts to $1.50 per ton.

It is also pointed out in the patent that some Fuller's Earths are less valuable than others for refining purposes and these can also be much improved by subjecting them to the treatment. Perhaps the most important discovery in the patent rests with the utilization of the waste residues after refining. The patentees say that the revivified material prepared from the waste residues has far greater refining properties for oils and fats than the original earths. This they explain by the fact that the process leaves a certain amount of the carbon derived from the oil or fat which existed in the waste earth. This carbon is naturally in a very fine state of division and very uniformly mixed with the earth so that it is just in the ideal condition to give the full effect to its bleaching power. The process of revivification can be applied repeatedly, and there seems little reason why it should not be used almost indefinitely or at any rate

until the porosity of the particles of earth is destroyed.

From the information obtained from the patentees, the process is applicable to any waste siliceous matters used in any oil refining, animal, vegetable, or mineral, also if it were collected, the waste Fuller's Earths, as already mentioned, which is used in the woolen industry, could equally as well be treated.

Fuller's Earth, or silicates, when used in the most economical way for oil refining, leaves a cake in the filter presses after pressing and steaming, containing from 4 to 8 per cent. of the oil or fat along with the nitrogenous matters, and other impurities; on subjecting this to the process of revivification in the specially devised apparatus of the patentees it is possible to recover this oil or fat, either as a distilled grease, or a heating or illuminating gas, which can be utilized for heating the furnace, or in any other way, as may be found the most convenient. The nitrogen of the nitrogenous matters can be recovered as ammonia liquors; it would, therefore, appear that the process will pay for itself by the recovery of these materials.

Messrs. Hart & McKerrow consider that the trade for materials suitable for these methods of refining has hardly been exploited as yet. There are, they say, many by-products existing in other trades which could be utilized, and they mention, for example, the residue in alum manufacturing, which they find possesses good refining properties after their treatment; these and similar products could no doubt be suitably graded with other materials and used.

The patentees also believe that there is scarcely any oil or fat which will not in the future be refined successfully in these ways. They suggest that the most rational way to open up the trade would be for the producers to start a central laboratory and small experimental works, where manufacturers could send oils, etc., which interested them, and have the right quality of material and the correct treatment given. They point out that it is a mistake to suppose that one quality of earth or silicate will answer for all kinds of oil or fat, but on the contrary, each requires a special preparation to get the best results from it. They state that when properly refined there is no process to equal these, as the loss during treatment is so slight, the resulting oil is not altered in any way, and is left perfectly neutral by having simply its impurities removed without any chemical reaction having taken place. Other methods of refining, usually by relying on a chemical reaction to bring about the separation of the impurities, leave the oil or fat altered, and increase the amount of fatty acids contained in it, etc., consequently the oil does not keep as well as with these neutral treatments, using Fullers' Earth, etc.

Palm Oil and Cocoanut Oil In The Philippines.

Owing to the recent considerable consumption of cheap oils, palm oils, inferior fats and the like for the manufacture of oleo stuffs for commercial purposes, oil manufacturers and dealers may be interested in the palm oil industry of the Philippine Islands. The palm oils of the Philippines have been used for commercial purposes for many years, the Indians and the Spanish having been interested in the production and application of the same. Not long ago Americans began to investigate into the possibilities of the use of the palm oil of the islands in the world's markets, and the results have been satisfactory. The experimenters found the palm oil of the islands to be suitable for many purposes. That of the Philippines under tests proved to be equal to the character of the best palm oils of other islands of this part of the tropics. The palm oil, when properly handled, turns out to be a pure, rich color, and when applied in proper proportions to oleo increases the market value of the same. It is calculated that the palm oil will give the oleo the much-desired butter-like appearance, as well as improve its general worth.

The natives of the islands employ some strange methods for working the palm oils and securing the same. The custom is to secure native labor, and the natives usually erect little huts in the palm groves. Sometimes the natives work individually, and then sell the proceeds of their labor to a common buyer, or the native hires himself out to an owner of palm oil producing lands. The natives make slow work of the oil-getting processes, and considerable time is wasted, as well as oil. But the supply of palm stock is unlimited, while the value of native labor is extremely low, as compared with white labor. The sultans and datos of the extreme southern end of the archipelago, where much of the palm oil is secured, have the slave labor do the work, and the cost is nothing, barring the expense of feeding the hombres. One sees some of the most unfinished apparatus in these native palm oil works, and you marvel as to how the processes can be conducted, under the circumstances. Churning devices are employed for working the stock. There are operations for pressing the palm leaves and squeezing the oils therein from the same, and there are operations by which the oils are obtained from the leaves by a process of saturation and extraction. Then there are oils secured from the barks of the palm by grinding and pressing. The saps of the tree are also fermented, and liquids obtained that possess market value. In same we have a wood case, made of extremely crude stock, but quite strong. This case work is braced on the outside with straps of split bamboo, and made practically water tight. There is a

turning device constructed from a log of wood. Arms are set into this log and then the wheel is belted with a rope extending from the drivewheel. The drivewheel is turned by crank or other power, and in this way the required revolutions are secured for the device. Liquids are thus readily mixed.

The natives seem to press the palm oil stuff in capsule form in most instances. The fatty stuff is first pressed to get moisture from it, and is then spread for drying in the sun a little while. After an hour's exposure the fat is collected and the capsules made. Sometimes molds are used, and often the stuff is merely worked into form by hand.

The oil is very often transported in liquid form, and it seemed to me that skins were used for the purpose more than anything else. This is made of caribou hide as a rule. The hide of this animal is tight, tough and inexpensive. The laps are closed with sewing and gyms, and quite a secure sack results. The oil is shipped from point to point by this process. I also noticed home-made palm oil jars. This style of jar is made from clay product. The natives secure the clay, and properly work and mold it and obtain the little-neck jar. Owing to the smallness of the neck, the contents of the jar are easily held intact. I have seen native packers carrying the palm oil to the coast by this system. Bamboo tubes likewise make good devices for the shipment of oils in this country. They are made from bamboo about fifteen inches long and four inches in diameter, with the ends closed with hide and a spout or plug used for filling and drawing the contents. It is wonderful how well oil is transported in these tubes.

I was interested in the methods of handling the palm oil stuffs at the sea coast markets. I watched long lines of natives coming along from the interior with their packs of palm oil stuffs on their backs. In some instances these oils were in a hardened state like fat. The buyer on the wharf or along the water front would place the material in a weighing case or tub and test the same. The test tube is a can made of hard wood and fitted with a bamboo hollow point. This end is pushed into the fatty stuff and when withdrawn brings forth the little cylindrical piece of stock. Thus the buyer gets a sample from the center of the substance to base his calculations upon. A butter cake is made in Borneo, just across from the part of the Phillipines where your correspondent is at present traveling, containing a goodly percentage of this palm oil. It is made especially for English trade. These natives and the Chinese merchants have some odd ways of handling the palm oil products of the islands, but as a rule the material is quite well prepared for export.

The manufacture of so-called cocoanut butter (chiefly an oily substance) has been in progress in America, Germany, Italy and some other countries for a number of years. But antedating the manufacture of this article in American and European countries is the manufacture of the substance in the islands of the southern seas, in the tropics, where the cocoanuts thrive in abundant lots in all seasons of the year. The cocoanut butter makers of Germany turn out some dozens of tons of the oily matter each day, and the market demand always exceeds the supply. The product is disposed of under the name of "Palmin." Wherever the fatty substances are made from the meat of the cocoanut, the methods are about the same. The kernel, so to speak, of the cocoanut is crushed for the purpose of squeezing out all lard-like matter. In fact, the substance secured is employed as a lard in some places. With proper coloring a butter is made. The bulk of the matter finds its way into the low-grade greases, from which lubricating substances are made for heavy or coarse machinery bearings. The substance is also used in making soaps and candles. It is as a rule of about the same consistency as beef tallow.

I watched the southern sea islanders at work making cocoanut fats in several different places. There is a point on the Hawaiian Islands where there is fat obtained from the cocoanuts. The Ladrone islanders likewise make cocoanut butters for transportation to markets in other countries. Guam turns out some. The Philippines proper have numberless great and small cocoanut butter and grease works. Borneo likewise derives a good income from the export of cocoanut butter. As a rule, the processes of extracting the meat from the cocoanut fruit and preparing it for the operation of getting the fatty material from the fiber is about alike in all of the islands. I saw no improved or modern machinery or devices of any sort in operation. All of the work is performed by hand. The natives of all ages and sexes scrap, break, chip and otherwise prepare the material for the finishing processes. Instead of breaking up the shell and having the pieces come out whole, for future cutting into portions, the contents of the cocoanut are scraped out. An edged tool of metal is fixed to the wood stand. The inner side of the cocoanut is scraped on this edge until the shavings of the cocoanut collect.

This substance is packed and sent to the markets, where it is sold to the pressers. Another way consists in removing the contents of the nuts in a complete order and shaping the pieces which are spread in the sun on a mat to dry.

A process of fine chipping and rolling is next resorted to by means of sets of toothed rolls. The teeth are made from strips of sheet metal fixed in grooves about the wood cylinders. The meat of the cocoanut is passed through in a matted order and receives grinding and chipping. A native gum which is used serves to hold the particles of the cocoanut meat together in mat-like

form, for the grinding. The rolls carry the mat of material to the press rolls. The mat is now ready for compression in a series of rolls. The material is admitted to the squeeze rolls and it emerges with most of the greasy matter pressed out. After the oil is removed the substance becomes a food for stock.

There are several processes of refining employed, with acids, by which the foreign substances are removed, leaving only the vegetable fatty matter. Free acids prevail in the stuff and have to be removed. In some places small tanks outdoors are used, while in some of the larger plantations I saw that covered buildings were employed. The refining tanks are placed upon the floor, and therefore even though the climate be warm, the coolness of the walled room with its earthen roof serves all purposes of a cooler temperature and the work of separation proceeds thoroughly.

Among the odd devices I observed for use in connection with the making of cocoanut butter, so-called, was a box-like affair, set up with a cylindrical piece of wood adjusted in a bearing in the base boards. This cylindrical piece is fitted with a handle or lever and the operators turn the same by means of this lever. There are some projections fitted into the cylinder and these are made to turn in the mass of cocoanut stuff. In this way the cocoanut material receives its mixing.

The cocoanut butter is usually put up in square packages of native hempen fabric.

These packages are made in varying sizes and are, as a rule, packed in mats or sacks for transportation on native ponies to the markets or to the sea for export.

The greasy substance obtained from the cocoanut meats is utilized in the Philippines and other islands as a lubricant for axle and machinery shaft bearings very frequently. In fact more so than any other sort of lubricant. The Germans use the material with other ingredients in making a good lubricant for ordinary machine bearings. Candle makers buy considerable of the grease for making candles.—Oil, Paint and Drug Reporter.

German Potash Trade.

Apparent confirmation of the recent reports of fresh attempts being made on the part of American financiers to obtain possession of German potash works has just been given by the statements made at a meeting of the Adolfs-Gluck Potash & Oil-Boring Company. One of the directors informed the shareholders that he had offered the company's rights to an American syndicate for £75,000, whilst a second director stated that he had also entered into negotiations for the sale of the properties, which promised to yield good results. The outcome of these endeavors remains to be seen, but it seems certain that the Americans are determined to buy some of the sources of raw material, if possible, though the German potash syndicate, which is apparently controlled by the representatives of the fiscal potash properties, will doubtless put forward all its efforts to frustrate the American designs.

Saponifying Petroleum and Mineral Oils.

This process of M. Raymond is based on the principles of the molecular contact of the petroliferous particles and those of the products mixed with them, a contact producing a kind of penetration of the molecules of a certain class by those of a different one.

The process is as follows: To a determined quantity of stearic acid, previously melted and thoroughly mixed with mineral oil, are added (1) a slight quantity of carbonate of magnesia; (2) chlorhydric acid in proportion with the quantity of carbonate of magnesia employed.

After the carbonic gas has escaped and the mixture has become stable, it is treated, cold, with a solution of caustic soda, containing about one-fifth of carbonate of soda.

By stirring a kind of agglomeration is produced, forming a mass of the product, which is left for several hours, so as to give time for the chemical action.

The product is then heated, with the gradual introduction of the quantity of alkali necessary for obtaining the saponification of the mass, which is left boiling until reduced to the state of a liquid paste.

This paste, like that of ordinary soaps, is thrown into a solution of sodium chloride, in order to remove all excess of alkali. The soap obtained, which floats on the surface, needs only to be collected and melted over a gentle fire.

Different from ordinary soaps, the petroleum soap does not foam, but it cleans perfectly, and may find numerous employments in industrial pursuits, such as the cleaning of wool, silk and cotton fabrics. It has specially the property of destroying parasites and healing skin diseases.

It is of great service in application to the head, by preventing the drying of the scalp, the formation of pellicles and consequently baldness. It has, besides, the property of softening the skin, which, instead of becoming dry and rough, remains smooth to the touch.

Employed in the natural state, petroleum possesses certain qualities indicated above, but its bad odor, its inflammability and its liquid state, present serious objections. Transformed into the state of soap, these inconveniences disappear. The soap may be perfumed and thus have an agreeable odor; it is uninflammable, and its preservation is indefinitely assured.—La Revue des Produits Chimiques.

Colonial Import Duties.

(Continued.)

SOAP.

India.—All kinds. 5 p.c. ad val.

Straits Settlements.—All kinds. Free.

Ceylon.—Perfumed and toilet soaps. 5½ p.c. ad val.
All other soap. R. 0.55 cts. per cwt.

Mauritius.—Ordinary Soap. R. 0.17 cts. per cwt., and 4 p.c. on duty.
Scented soap. 10 p.c. ad val., and 4 p.c. on duty.

Seychelles.—All kinds. 15 p.c. ad val.

Labuan.—All kinds. Free.

Hong Kong.—All kinds. Free.

British New Guinea.—Hard and soft soaps. 4s. 8d. per cwt.

Australian Commonwealth.*—Perfumed, toilet, and medicated (including weight of wrappers). £1 8s. per cwt.
Soaps for leather and soap dyes. 20 p.c. ad val.
All other kinds, including polishing soaps. 4s. 8d. per cwt.

New Zealand.—Honey and brown Windsor soap composition. Free.
Common yellow and blue mottled. 5s per cwt.
Castile soap. 15 p. c. ad val.
Soap powder, extract of soap, dry and soft soap, Brooke's, Sapolio, and silversmiths' soap. 20 p.c. ad val.
All other soap. 25 p.c. ad val.

Fiji.—Fancy, scented, toilet, medicated, also soap extracts. 15 p.c. ad val.
Plain, hard, or soft soap, including "Sunlight." 9s. 4d. per cwt.

Falkland Islands.—All kinds. Free.

Cape of Good Hope.—For use in the colony or any other part of the South African Customs Union:
Toilet soap (including carbolic for toilet use, in tablets), soap powders and extracts. 20 p.c. ad val.
"Maypole" soap. 7½ p.c. ad. val.
"Monkey," carbolic (other than toilet), in bars, and other soap. 4s. 2d. per 100 lb.
In transit to places *outside* the South African Customs Union:
All kinds. 3s. p.c. ad. val.

Note.—A rebate of duty is allowed upon imported soap, on proof to the Collector of Customs that it has been used exclusively in connection with the industry of wool washing. A declaration to the same effect must also be made by the importer at the time of importation.

Natal and Orange River Colony.—Same tariff as for Cape of Good Hope.

Transvaal.—All kinds. 7½ p.c. ad. val., and transit duty 3 p.c.

St. Helena.—All kinds. Free.

Lagos.—All kinds. 10 p.c. ad val.

Gold Coast (West of the Volta).—All kinds. 10 p.c. ad val.

Gold Coast (East of the Volta).—All kinds. 4 p.c. ad val.

Sierra Leone.—All kinds. 10 p.c. ad val.

Gambia.—All kinds. 5 p.c. ad val.

Dominion of Canada.—Common or laundry soap. 4s. 1 33d. per 100 lb. (A).
Harness soap. 25 p.c. ad val. (A).
Pearline, and other soap powders. 30 p.c. ad val. (A).
All other soap. 35 p.c. ad val. (A).

Newfoundland.—Harness soap. 20 p.c. ad val
All other soap and soap powders. 30 p.c. ad val.

Bermuda.—All kinds. 5 p.c. ad val.

British Honduras.—All kinds. 10 p.c. ad val.

Bahamas.—Mineral, palm, or cottonseed oil soap stock. Free.
Common washing soap. 4s. per 100 lb.
All other soaps. 20 p.c. ad val.

Turk's and Caicos Islands.—All kinds. 3s. per 100 lb.

Jamaica.—Common, brown, yelelow, or blue mottled, and all other laundry soaps. 5s. 6d. per 100 lb.
All other soap. 16⅔ p.c. ad val.

St. Lucia.—Fancy, including all scented and other toilet soaps. 20 p.c. ad val.
All other soap. 2s 6d. per 100 lbs.

St. Vincent.—Common washing soap. 4s. 8d. per cwt., and 10 p.c. on duty.
All other soap. 10 p.c. ad val., and 10 p.c. on duty.

Barbados.—All kinds. 1s. 6d. per 100 lb.

Grenada.—All kinds. 2s. per 100 lbs.

Virgin Islands.—Scented or fancy soap. 10 p.c. ad val.
All other soap. 4s. 2d. per 100 lb.

St. Christopher and Nevis.—Toilet or fancy soap. 20 p.c. ad val., and 10 p.c. on duty.
All other soap. 4s. 2d. per 100 lb., and 10 p.c. on duty.

Antigua.—Toilet or fancy soap. 20 p.c. ad val., and 33⅓ p.c. on duty.
All other soap. 4s. 2d. per 100 lb., and 33⅓ p.c. on duty.

Montserrat.—Toilet or fancy soap. 20 p.c. ad val., and 33⅓ p.c. on duty.
All other soap. 4s. 2d. per 100 lb., and 33⅓ p.c. on duty.

Dominica.—Scented or fancy soap. 20 p.c. ad val.
Soap powders, and all other soap. 4s. 2d. per 100 lb.

(A) If entitled to the benefits of the British Preferential Tariff, the duty is subject to a reduction of one-third.

Trinidad and Tobago.—All kinds. 2s. 1d. per 100 lb.
British Guiana.—Perfumed, fancy, and toilet soap, including soap powders and medicinal and medicated soaps:
Costing 28s. per cwt. and over. £1 8s. per cwt., and 5 p.c. on duty.
Costing less than 28s. per cwt., but not less than 18s. 8d. per cwt. 9s. 4d. per cwt., and 5 p.c. on duty.
All other soap. 2s 4d. per cwt., and 5 p.c on duty.
Gibraltar.—All kinds. Free.
Malta.—All kinds. Free.

GLYCERINE.

India.—5 p.c. ad val.
Straits Settlements.—Free.
Ceylon.—5½ p.c. ad val.
Mauritius.—10 p.c. ad val., and 4 p.c. on duty.
Seychelles.—15 p.c. ad val.
Labuan.—Free.
Hong Kong.—Free.
British New Guinea.—5 p.c. ad val.
Australian Commonwealth.*—Unrefined glycerine. Free.
All other kinds of glycerine. 20 p.c. ad val.
New Zealand.—Refined glycerine. 20 p.c. ad val.
Crude glycerine, also glycerine wash for cattle, sheep, &c. Free.
Fiji.—12½ p.c. ad val.
Falkland Islands.—Free.
Cape of Good Hope.—For consumption or use in the colony or any other part of the South African Customs Union. 7½ p.c. ad. val.
In transit to places *outside* the South African Customs Union. 3 p.c. ad val.
Natal and Orange River Colony.—Same tariff as for Cape of Good Hope.
Transvaal.—All kinds. 7½ p.c. ad val., and transit duty 3 p.c.
St. Helena.—Free.
Lagos.—10 p.c. ad val.
Gold Coast (West of the Volta).—10 p.c. ad val.
Gold Coast (East of the Volta).—4 p.c. ad val.
Sierra Leone.—10 p.c. ad val.
Gambia.—5 p.c. ad val.
Dominion of Canada.—Glycerine imported by manufacturers of explosives, for use in their own factories. 20 p.c. ad val. (A).
All other glycerine. 20 p.c. ad val. (A).
Newfoundland.—40 p.c. ad val.
Bermuda.—5 p.c. ad val.
British Honduras.—10 p.c. ad val.
Bahamas.—20 p.c. ad val.
Turk's and Caicos Islands.—Free.
Jamaica.—16⅔ p.c. ad val.
St. Lucia.—15 p.c.
St. Vincent.—10 p.c. ad val., and 10 p.c. on duty.
Barbados.—10 p.c. ad val.
Grenada.—7½ p.c. ad val.
Virgin Islands.—10 p.c. ad val.
St. Christopher and Nevis.—10 p.c. ad val., and 10 p.c. on duty.
Antigua.—10 p.c. ad val., and 33⅓ p.c. on duty.
Montserrat.—10 p.c. ad val., and 33⅓ p.c. on duty.
Dominica.—12½ p.c. ad val.
British Guiana.—15 p.c. ad val., and 8 p.c. on duty.
Gibraltar.—Free.
Malta.—Free.

* A duty is imposed on goods imported into Western Australia from other Australian States.

Soaps and Fatty Acids.

English Patent No. 11,778, 1902. Date of Application, May 23rd, 1902. Complete specification left, February 23rd, 1903. Accepted May 23rd, 1903. Communicated by Professor Giuseppe Reale, of Lauria, in the kingdom of Italy.

This invention has reference to the production of soaps and fatty acids from petroleum or other hydrocarbons.

Heretofore fatty bodies of vegetable or animal origin were saponified by powerful bases, but as far as I am aware soap and fatty acids have not hitherto been obtained from petroleum or other hydrocarbons.

To effect the transformation of hydrocarbons into fatty acids and soaps, I act in the presence of cetin or spermaceti, (and also in the presence of all substances similar to spermaceti, such as China wax) which according to Chevreuil, Dumas, and Heintz, is composed of stearic, palmitic, cetic, (the latter being identical with benic acid), myristic and coccinic ethers, considering furthermore that by treating crude ethal with potash lime, Heintz obtained in turn, palmitic, stearic, myristic and laurostearic acid, he was of opinion that instead of ethalic alcohol only, there were also other alcohols in spermaceti, viz:—

lethal, or lauric alcohol	$C_{12}H_{26}O$
methal, or myristic alcohol	$C_{14}H_{30}O$
ethal, or cetyl alcohol	$C_{16}H_{34}O$
stethal, or stearic alcohol	$C_{18}H_{38}O$

Thus spermaceti would contain compound ethers varying from each other not only in their acid radicals, but also in the alcoholic radicals of which they are formed.

Now, I have found that when spermaceti is united to the said petroleum carbides, represented by the following:

Hydride of rutil or Decane..... $C_{10}H_{22}$
Hydride of undicil or Endecane..... $C_{11}H_{34}$
Hydride of lauric or Dodecane..... $C_{12}H_{26}$
Hydride of coccinil of Tridecane..... $C_{13}H_{28}$
Hydride of myristil or Tetradeeane... $C_{14}H_{30}$
Hydride of benil or Pentadeeane..... $C_{15}H_{32}$
Hydride of palmitil or Hexadecane... $C_{16}H_{34}$

and are submitted to prolonged boiling in the presence of concentrated solutions of caustic potash or soda, these substances are transformed into soap.

When the ethers of spermaceti in the presence of potash or soda are decomposed into alkaline stearate, palmitate, cetate, myristate and coecinate, and the elements of water are fixed, there are simultaneously generated lauric, myristic, cetyl, and stearine alcohols which absorbing oxygen are transformed into the corresponding acids. The oxygen is absorbed from the alkaline hydrates by the myristic, cetyl, and stearic alcohols whilst the hydrocarbons absorb it partly from the alkaline hydrates and partly from the decomposition of the water used for the solution of such alkalies. The hydocarbons are in turn transformed into alcohols and then into acids which form the alkaline salts that constitute the soap in the presence of the potash and soda therein contained.

Vaseline is a pseudo-fat, not a true fat, as it is only a semi-solid hydrocarbon and is obtained by purification of the residues of distillation of raw petroleum by means of animal carbon, and its chemical formula has not yet been determined in a positive manner. I have, however, found that in the presence of spermaceti and alkali it is transformed into fat and then into soap, but more slowly than the liquid carbides.

It is essential that the transformation of such hydrocarbons should always take place in the presence of concentrated alkaline solutions, and boiling should not take place rapidly, but slowly, and for a long time. The quantity of alkali which is necessary in order that the reaction may proceed regularly is half the quantity of spermaceti employed, besides adding further quantities, if required, in order to continue and perfect the saponification.

Spermaceti relatively to the hydrocarbons must be in the proportion of 15 per cent. if refined hydrocarbons are used, and 10 per cent. if raw hydrocarbons are used, so that for every 100 kilos of petroleum or vaseline, 15 or 10 kilos of spermaceti are needed.

The operation is performed as follows:

In a tank or boiler containing the petroleum or vaseline, are introduced the spermaceti and the alkaline solution at 15 deg. Be. which must be present in such a quantity as is necessary to have a quantity of alkali corresponding to half the quantity of spermaceti employed. As soon as boiling begins, an energetic reaction is observed, with rapid effervescence which gradually decreases, the temperature remaining constant. It will then be seen that the petroleum is intimately emulsified with the lye.

The concentration of alkaline solution containing the petroleum in emulsion is continued on a slow fire, and from time to time, fresh lye, at 20 deg. Be. concentration, is added gradually as the water evaporates. This operation is continued with a slow fire—saponification being generally slow and therefore hurry being useless—always adding fresh lye of the said degree of concentration until the emulsified liquid is so consistent that it bubbles with difficulty, sputtering boiling soap drops.

Then a certain quantity of lye (this lye being the residue of a former operation), must be added containing a larger quantity of sodium chloride than fresh lye would contain, or I may add the quantity of salt corresponding to 12 per cent. to 16 per cent. of the petroleum employed.

This is done to separate the lye from the soap, continuing the boiling in order to further concentrate the lye, and render it more powerful. When the paste has reached the desired density it is removed from the fire and left to cool in order to separate the lyes which accumulate at the bottom of the vessel.

When the first operation has been accomplished the vessel is put again on the fire which is always kept slow, and the mass is treated with unused lye at 13 deg. Be.

As soon as the boiling begins an abundant quantity of foam is produced and the soap becomes granulous. The paste, as the concentration progresses, gradually dries and, if the operation be carried out regularly, the foam soon disappears, whereupon the vessel is taken off the fire and left to cool in order to separate the lye. The latter is kept to serve for enlarging the soap. The boiled soap is in the form of a granular, incoherent mass containing a large proportion of alkali. The time required for the treatment is about 24 hours at a temperature from 243·50 to 261·50 degrees Fahrenheit. The soap must then be rendered adhesive and tenacious, and the excess of alkali must be separated.

This is accomplished in the following manner:

The granular mass is dissolved in a small quantity of soft water to which 1.20 of the preceding lye, already treated with lime for purifying it and rendering it more caustic is added so that the saponaceous mass floats. The grains become flat and purified from the alkali, and when they have assumed the said flat appearance a small quantity of twice boiled lye is added which has the density of 12 deg. Be. and has been clarified with lime.

The mass is then again put on the fire and heated moderately till the condensed paste floats.

Then the mass is again removed from the fire and the lyes decanted. Thereupon other twice-boiled, clear, white, caustic lyes at 6 deg. Be. are poured on the paste together with sea salts so as to have a density of 8 deg.

Be. and the slow boiling is continued until the paste barely floats and the particles are elongated, bright and almost transparent and are detachable from the finger as a thin, consistent and slightly alkali film.

Thereupon the fire is lessened leaving but little in the centre of the furnace and after a short evaporation it is totally put out and the boiler or vessel is closely covered so that purification may take place spontaneously. After 15 to 20 hours the saponaceous mass will be found divided into three layers the intermediate of which will be the pure one. The top layer is taken off and barrelled, then the second one is removed until the third impure layer has been reached, which is distant from 8 to 10 centimeters from the lye.

When the paste has the desired density it is melted and poured into wooden moulds and there cooled; it is then divided into a number of small portions and submitted to stamping or compression in dies of appropriate patterns. From soap made from petroleum or vaseline in accordance with this invention the fats which they contain in combination with alkali may be separated and used as a substitute for ordinary fats for various purposes. This is done by treating the soap with diluate sulphuric acid which combines with the alkalies and liberates the fatty acids.

Incorporated.

The Edward J. Knapp Candle Co., at New York, to manufacture candles, etc. Capital, $25,000. Incorporators, Edward J. Knapp, Syracuse, N. Y.; Valentine, E. Maurer, Syracuse, N. Y.; Frank A. Sutler, Chittenango, N. Y.

Chicago Soap Manufacturing Company, Chicago; capital, $30,000; incorporators, Melville E. Stanton, John R. Stanton and Grant L. Lewis.

Silex For Soap.

We would call the attention of our readers to the advertisement of The Bridgeport Wood Finishing Co., of New Milford, Ct., New York, Chicago and Philadelphia. This concern is producing a superior quality of silex for the leading makers of scouring and laundry soaps, and any one interested in silex should write them for samples and further information, which would be cheerfully furnished.

This Company has a large amount invested in plants for the special preparation of silex, and all its product is calcined, ground under water, floated, precipitated, dried and bolted, thus insuring evenness of grade which is not obtained by any other process.

While the dry ground product may be obtained for a less price, those who have made a large success of their soap business have found it to their interest to use the goods made by The Bridgeport Wood Finishing Company.

PATENTS AND TRADE-MARKS.

The following list of recent Patents and Trade-Marks is reported by W. G. HENDERSON, Solicitor of American and Foreign Patents and Trade-Marks, Norris Bldg,, Washington, D. C. A copy of any of the following will be furnished by him for 15 cents.

TRADE-MARKS.

40,610. Certain Named Soap. Aug. Luhn & Co., Gesellschaft mit Beschrankter Haftung, Barmen, Germany. The word "Abrador."

40,611. Scouring Soap. Bon Ami Company, Jersey City, N. J., and New York, N. Y. The word "Capitol," associated with the representation of a dome rising from the center of a roof formed by the junction of two gables.

40,612. Bleaching Powder. St. Louis Chemical Co., St. Louis, Mich. The representation of a stag's head enclosed in concentric circles.

40,773. Washing Soap. Richard H. L. Talcott, Brookline, Mass. A shield-shaped figure having a scroll overlapping its lower part and the representation of an Easter lily on its upper part.

LABELS.

10,102. Title: "Spurlock's Southern Laundry Washing Blue." (For Washing Blue). The Webb Manufacturing Company, Nashville, Tenn.

AROUND THE SOAP FACTORIES.

News-items sent us by our readers will find prompt attention in this column

Incorporated: The Edward J. Knapp Candle Co., at New York, to manufacture candles, etc. Capital, $25,000. Incorporators, Edward J. Knapp, Syracuse, N. Y.; Valentine E. Maurer, Syracuse, N. Y.; Frank A. Sutler, Chittenango, N. Y. Chicago Soap Manufacturing Company, Chicago, capital, $30,000; incorporators, Melville E. Stanton, John R. Stanton and Grant L. Lewis.

The plant of the Auburn Soap & Chemical Co., Auburn, N. Y., was destroyed by fire.

The old building of the Kelly Soap Co., Wilmington, Del., have been torn down, this being the first step in the erection of an elevated railroad.

The work of grading the site for the Procter & Gamble Company's factory at Kansas City has been commenced. To prevent a repetition in future of the recent flooding of this land, it is to be filled in about four feet. It is expected that the plant will be ready for business by the beginning of next year. The main building will be 400 feet long and 100 feet wide. It will consist of four stories and a basement. The general offices, the main soap factory and the packing and shipping departments will be located in it. The other

building will be 430 feet long, 75 feet wide and three stories high. It will contain the oil refinery, the lye house, the glycerine works, the power plant and the machine shops.

We learn that the work of erecting the large new oil and soap works planned for Opelika, Ala., has been actually commenced.

De Jauno Bros. is a new firm of soap manufacturers at Bethlehem, Pa.

Consul William E. Alger, of Puerto Cortes, informs the department, June 10, 1903, that the congress of Honduras has granted a concession to an American citizen to manufacture soap and candles, with the privilege of importing all raw material duty free for a period of ten years.

Oscar F. Rutschman has bought out the firm of Rutschman Bros., Philadelphia, and succeeds them in the manufacture of toilet soap machinery. The new owner is the son of one of the Rutschman brothers and has been with that firm since he was sixteen years old, so that he is in every respect quite at home in his new venture.

Boston butchers are agitating for the establishment of a butchers' fat melting plant as near the city line as the law allows. It is stated that $50,000 has been raised for the purpose. Another $50,000 is needed. The resolution to build was passed last week.

Baron de Bush, eldest son of the late William Bush and well known through his contributions to the knowledge of essential oils, lost his life through an accident on a railroad in Scotland last month.

The Eagle Soap Works, Chicago, Ill., capital $2,500, has been incorporated by John Kulinski, A. B. Miller and W. E. Cloyes.

The Perkins Olive Oil Company has been incorporated at Phoenix, Ariz., to develop olive properties and manufacture and sell olive oil.

Pugsley, Dingman & Co., are building large additions to their soap factory at Toronto Junction, Ont.

A cottonseed mill and soap factory are to be erected in the city of Torreon, Mexico, by H. R. Severin, of that place. The necessary government concession has already been secured. Mr. Severin has long been a subscriber for this paper and we wish him abundant success.

Incorporated in New Jersey: Frank Siddall's Soap Company, Sea Isle City, capital $300,000; incorporators, Frank H. Siddall, Frank E. Siddall, Thomas Ludlam. The company is to manufacture and deal in soap.

The George A. Pierce Company, organized at Kittery, Maine, for the purpose of buying and selling specialties, manufacturing laundry and toilet soaps, and other specialties, disposing of their products, etc., with $10,000 capital stock. The officers are: President, George A. Pierce of Melrose Highlands, Mass., treasurer, Harris C. Field of Chelsea, Mass.

It is reported that Morris, Butts & Miller contemplate removing from Kansas City, and Sherman, Tex., is trying hard to secure their location in the latter place.

R. L. Willis, who for some time held the position of chemist and manufacturing expert with the Goodwin Manufacturing Company of St. Louis, is on the way to San Francisco to take charge of the Mission Soap & Candle Company.

The Summit City Soap Company, of Fort Wayne, incorporated. The directors are Gustav A. Berghoff, Albert Jauch, Jasper, Roach, Hubert Berghoff and Harry C. Berghoff.

Incorporated: The American Victorine Company, at Portland, Me., to make washing compounds. Capital, $300,000. President, M. W. Baldwin; treasurer, A. S. Conant, both of Portland, Me.

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NOTE: This list is compiled with the greatest possible care, but the publisher does not assume any responsibility other than to correct and to complete the list according to data obtained from official sources or furnished by the trade. Brands registered in the patent office as trade-marks or labels are given with the name of the party registering same. Brands or names marked * are those which were found to be used by more than one firm or the owner of which could not be ascertained. ☞ SEE THAT ALL YOUR BRANDS ARE ENTERED IN YOUR NAME.

3—Liberty Mfg. Co., Chicago.
344 Home Soap Co., N.Y.
345 Columbia Ref'g. & M'f'g Co. Ltd., New Orleans.

Abrado, Floridine Mfg. Co., New York.
A Happy Home 4
Alabama Tar 3
All-need it 286
Amazon Coco 337
Amber Rose 346
Anchor Castile 3
Angelus 54
Antelope 3
Antillia 2
Anty Up 340
Apple Blossom 337
Atoka 346

Baby Mine 8
Bannock 3
Beauty Belle 151
Beaumont's Shaving 346
Beef Oil 340
Bell's Brown 343
Bell's Naphtha 343
Ben Hur 3
Bicycle 3
Big Glycerine 3
Billy-Goat 340
Blossom Bouquet 3
Blue Chip 340
Blue C oud 2
Blue Coco 340
Blue Family 340
Blue Monday 340
Blue Olive 340
Boast 3
Botica Francisca 3
Bonquet Chic 3
Bouquet Reveric 3
Brazilian Bath 3
Bunny—Hewitt Bros. Soap Co. Dayton, Ohio.

Calcutta Castile 337
Calumet 3
Camille 3
Ceske Slovonsky 3
Ceske Polski 3
Chlorine 340
Cleaneasy 286
Climax Chip 54
Cloth Pin 340
Cloths Pin 340
Coa Nut 346
Coca Foam 3
Columbia 3
Conto & Elroy Castile 3
Credential Shaving Stick 16
Crown Princess 337
Crystal Honey 346
Crystal Sulphur 3
Crystal Palace 3
Crystal Transparent Tar 3
" " Carbolic 3
Cuban Rose 3
Cuta Alba 3
Cultoderma Medicated 3
Cycle 3

Dactylis 11
Dermicura 327
Diadem 3
Druggist's Transparent 3
Dr. Allens Medicated 3
Durango Best, Durango (Colo.) Soap Co.

Elk's Bonqnet 346
Empress Eugenie 115
Empire Geranium 337
Eucryl Eucryl Ltd., Hull, England.
Eurcka 3
Evergreen 286
Expert 286

Facine 340
Fairbank's Primrose 2
" Scouring 2
" German Fam. 2
" Glycerine-Tar 2
" Mottled Germ'n
" Olive 2
" Navy Blue 2
Federal Family 1
Floral Feast 115
Flannel 2
Flip 345
Force, Cincinnati Soap Co., Cincinnati, Ohio.
Fragrant Honey 2
French Violette 3
Frog 340

Gem Wash, Componnd, Clara Pearce, Philadelphia.
Georgia Oleine 29
Geronne Violette 3
Geyser 343
Giant 3
Gloriola 29
Glycerated Tar 346
Glycerderma 3
Golden Rose 3
Gold Seal Soap Flour 340
Goodhair, Goodhair Remedy Co., Newark, Ohio.
Green Olive Chip 340
Green Palm 340
Green Seal Chip 340
Gusher 340

Hard Maple 155
Heliotrope Blanc 3
Heliotrope Ideal 334
Helix 54
Hi Lo 96
Home Castile 3
Horse Oil Harness 340
Hots Springs Bath 3
Hy-Lo 96

Ideal Bouquet 3
Ideal Family 3
Idyllwild 54
I-Lika-U 286
Ilo-Ilo 340
Imperial Crown 3
Iroquois Maiden 115

Jack & Jill 340
Jack r.
Japanese Bath 3
Jerone Bouquet 3
Jewel 2
Jus de Framboise 3

Kaska Bouquet 346
Kazan 343
Kimola, Bell Mg. Co., St. Louis, Mo.
King Solomon's Rock Oil S. Mnross Jenkins, N. Y.

Lakeside (Scouring) 2
La Mariposa 54
Lamsuet 3
Lasco Napthol 54
Last Long 286.
La Virtho, John S. Nichols, New York.
Le Fameux 16
Le Fameux Rose de Seville 16
Le Fameux Violette de Sevill 16
Le Fameux Pcau d'Espagne 16
Le Fameux Jockey Club 16
Lemola Toilet, Lemola Soap Co., Los Angeles, Cal.
Lemolive 54
Lemonine, E. H. Kraut, Cincinnati.
Lettuce Cream 3
Libertys London Transparent 3
Liberty's Quartette 3
Liberty's Gennine Bouqnet 3
Limberine, E. A. Warren, St. Paul, Minn.
Lion 2
Lisette 3
Little Sweetheart 346
Llama 3
Long Shot 345
Lotus Bouquet 3
Lotus Honey 3
Lotus Glycerine 3

Madeira 16
Madeira Almond Cream 16
Madeira Cncumber Cream 16
Madeira Lettnce Cream 16
Madeira Olive Cream 16
Marjorie 337
Marveline 300
Marvelo, Natioval Process Co, Rochester, N. Y.
May Field Bouquet 346
kiua Skin 346
Maxine Elliott 337
Medical Lake 3
Medicated Witch Hazel 3
Mentholatum Corn Oil S. 169
Mexicano 54
Michigan Family 2
Mildred 337
Millens Cream 3
Millens Toilet 3
Millens Antiseptic 3
Millens Tar 3
Miners Tar 3
Milk Bath 3
Monroe 3
Moss Rose Borax 3
Mox-Nix 340

Naphtha Toilet 340
Naphthal 340
Napthol 340
Naptholive 340
Naptha Washing Powder—Hunt Mfg. Co., Cincinnati, Ohio.
Natnral Gas 340
Next-To. Phoenix Chem'l Co. New York.
Nolabor 340
Northern Star 3
Noxlabor 340
Noxwork 340
No. 81 White Rose Glycerine 3
No. 3725 White Rose Glycerine 3
No Name 3

Old English Brown Windsor 346
Old English Blue 3
Old Linen 3
Old Time Tar 3
Olive Bath 3
Orinoco 337
Orris Unscented 337
Otis Lightning, C. H. Waterhouse, Essex, Conn.
Our Baby's Bath 3
Our Own 3
Our Special 3
Oxolive 340
Oxigen 340
Ox Cil 340

Palmo 340
Palm Oil S. Powder 340
Palm Soap Flour 340
Parisian Toilet 54
Passion Rose 298
" Violet 298
" Pink 298
" Lily 298
Peace 340
Peach Blue 340
Peerless Country Clnb 337
Peerless Forest Violet 337
Peerless Lily of the Valley 337
Peerless New Mown Hay 337
Pen Yen 340
Perfecto 121
Plantol Lever Bros., Limited Port Sunlight, England.
Poncine Erasive 3
Pony Up 340
Popular Blossom 3
Premium, Davenport (Iowa) Soap Co.
Premium W. Powder, Davenport (Iowa) Soap Co.
Preventionette, Willard Chemical Co., Malden, Mass.
Pure Large Oval 3

Qneen Complexion 3
Quick and Easy 56

Radiant Violet 3
Red Raven 346
Reve d'Amour 3
Rex Cremo 340
Rex Family 340
Rex Liquid Soap 340
Rexolene 340
Rexolive 340
Rockford Scouring 2
Romola 3
Rose d'Or 3
Rose Glycerine 3
Rose Immortelle 334
Royal Lily 16
Rubbo, Lever Bros., Limited, England.

Safeguard Carbolc 53
Samson's Transparent Tar 3
Sandalwood 3
Sani-Tari Skin, Citizens Wholesale Snpply Co., Colnmbus, O.
Santa Rex Castile 2
Sauer's Complexion 3
Savon White Rose 3
" Jockey club 3
" Violete de Parme 3
" Hyacinth 3
Savon Carnation 337
Savon Heliotrope 337
Savon Lilac 337
Savon Queen Regent 337
Savon Quo Vadis 337
Savon Rose Marechal Niel 337
Savoy Alpine Violet 337
Savoy Carnation 337
Savoy Jockey Club 337
Savoy Primrose 337
Sayf Syde, Sayf-Syde Soap Co., Cincinnati.
Sentinel 340
Sentry 340
Shampoo Tar—Brown Soap Co. Dayton, O.
Snow Violet 3
Solos Laundry, Nelson Mfg. Co., Iowa City, Iowa.
Sorosis 340
Stainoff, D. M. Steward Chattanooga.
Stainilgo, Kendall-Davis Co., Boston, Mass.
Star Mottled 2
Star Tar 286
Success Scouring Sand Soap Tacony Soap Co., Phil'a
Superior Transparent Glycerine 3
Sweet Blossom 2

Tew-Fer 96
Tode 340
Tonla Tonla 334
Town Market 3
Trash Mover 286
Twin 2
Twin Rose 3
Two Jacks 340

Uncle Sam's Floating 120
U-Lika-Me 286

Vegetal Bouqnet 3
Vestal Carnation 16
Vestal Lilac 16
Vestibule 3
Vineta 3
Vinola Cream 3
Violette Grandfleur 334
Violette Revee 3
Violet de Parme 337

Wego 96
Wendela 3
Whale 3
White Fairy 2
White Pine Castile 344
White Rose Glycerine 3
White Rose Honey 3
White Saxony 3
White Wonder 346
Windsor 2
Winner 29
Witch Hazel Bath 3
Witch Hazel Bouquet 3
Witch Hazel Shaving 3
World's Fair 2
World's Work 53

Yellow Dog 340
Yellow Palm 340
Yellow Rose 3

Zingarella 3
Zo-Zo White Tar 346
Zanette 3

THE

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DR. HENRY GATHMANN, PUBLISHER. 2707 North Ave , Milwaukee. **MILWAUKEE, WIS., September 1, 1903.** VOL. XIV. No. 1.

THE

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We are pleased to state that Mr. Hillyer's contribution "On the Cleansing Power of Soap," which we began to print last month, has attracted the attention of more than one light in the soap making fraternity. As a result we now print, for one thing, a letter objecting to the installment plan of publishing such communications. We can only agree with the writer of said letter and have therefore decided to print the entire remainder of the article this month although it does take up considerable space.

Another article by the same writer, but on another subject, entitled: "A Study of Soap Solutions," will follow in a later issue of this paper.

The present issue of this JOURNAL has, almost unavoidably, run into several quite lengthy articles, but we believe they are all well worth printing, and that without "continuing" them in installments from month to month. In order to provide space for them, we are obliged to retrench a little this month in other respects.

Our thanks are due to the Curtis Publishing Co., of Philadelphia, for permission to reprint the copyrighted story entitled "The Millionaire's Opportunity" which appears on another page. Generally speaking, stories are not looked for in the prosy pages of a trade journal, and this particular story itself is not exactly in accord with the actual conditions of the soap business; but there is something so attractive about it, that we believe our readers will enjoy it. It would be impossible to adapt the same story to a planing mill, or a machine shop, or any other industry we can think of and, in short, we consider this story so well adapted for the special enjoyment of our readers, that we feel that withholding it from them would be far less excusable than its reproduction in these pages.

Our readers are aware that the Procter & Gamble Co. are building a branch factory in Kansas City and this month we report that they have acquired control of the Schultz soap factory at Zanesville, Ohio. As this firm has all along been the largest to keep away from the plans of the soap manufacturers' association, it is evidently pursuing a policy of its own that affords food for reflection.

One Christopher Columbus, some years ago, did a neat little trick with an egg that he made stand on end. Like his discovery of America, nobody else had been able to perform the trick till he "showed how" and then it was too simple for anything.

Christopher has become quite famous—partly through discovering America and partly by standing that egg on its end. But a modern German chemist located at present in Italy would make old Christopher think twice before bringing out that egg trick as anything remarkable.

The said chemist hit on the idea that, since soap is the best all-around cleaner out, it is the proper thing to wash dark-colored and evil-smelling soap with, in order to make it into a light-colored, sweet product. The idea is sublimely simple and the details are given on another page in the descriptoion of the English patent secured by the discoverer.

Occasionally we hear of people having "builded better than they knew," and this we seem to have done in publishing our August issue of the Soap Journal. Not till the paper was complete, did we really fully realize ourselves the many good things it contained. There were original contributions from subscribers in Cuba and in Australia, besides four others in different states of this country. There were also important news collected from many sources and some good technical articles. A letter received last month from a valued reader puts it: "The August number of the American Soap Journal of 1903 will be a memorable event in the development of soap making."

Curiously enough the problem Why Soap Washes was spoken of last month by three contributors without previous arrangement. Mr. Hyllier approaches the question from a systematic, scientific standpoint, backed by laborious and numerous experiments. Mr. d'Estampes, at the other extreme, speaks as one who wants to make a soap that shall do the largest amount of cleaning and thereby prove profitable to its manufacturer, regardless of atomic weights, density of vapors and unsatisfied radicals or other theories. Then Mr. Schmidt occupies a place between the ultra-scientific and the ultra-practical correspondents and advances, among others, an argument which we have not heard of before, namely that the *very act* of decomposition which soap undergoes while dissolving in water, is at least one important factor in its cleansing effect. There are other instances where chemicals at the moment of their separation from their compounds (i. e. in the "nascent" state) have peculiar properties, and if something like this be true also in the case of soaps, then a new link has been found in this intricate problem, and our August issue was the first to proclaim it.

But we have been promised further contributions on this subject and are in hopes that before long we shall know just why soaps wash; until then we shall be content to let all investigators meet each other in our columns and to spread the results of their efforts to the remotest corners of the earth.

To solve such a problem and to make the solution available for practical purposes of the soap manufacturer, an exchange of opinions, thoughts, results of scientific researches and practical results, are all required, and the columns of the AMERICAN SOAP JOURNAL are the one place that can act the role of an efficient exchange.

A Hint To Editors.

Editor American Soap Journal: I have read with much interest in August JOURNAL, Mr. Hillyer's article "On the Cleansing Power of Soap," and was put out not a little upon finding on page 325 the information that, it is "to be continued." So seldom are we fooled in this way by the JOURNAL, that we do not take the precaution to look at the end of any article it contains, to see if it is possibly a masked patent medicine ad., or serial love story, and hence we feel the disappointment all the more, when we are "taken in." Tell me, what is the use of giving us a piece of a good thing to-day, with the promise that we will get another slice in a month if we remain good and—alive? Why torture us thusly by pinning us upon the ragged edge of suspense and expectancy for thirty days? Who can "keep track" of a dozen incompleted articles contained in the various dailies, weeklies and monthlies which every soap maker subscribes to from choice or compulsion? The capacity of the average human memory is inadequate and hence the busy and practical soap man, as a rule, does not attempt to read such articles, even though they hold out a promise of containing interesting and valuable information. Life is too short.

The publishers of our best papers and periodicals fully understand this; take for instance the Scientific American, (weekly) which might well be accepted as a model popular scientific paper, and the Ladies' Home Journal (monthly) as the model of a family paper; if they have ever published anything with a "to be continued" or "to be concluded" at the end, I have not noticed it. On the other hand, some German papers are regular nuisances in this respect; take for instance the Seifensieder Zeitung published in Augsburg; the last number received, dated Aug. 5th, contains only six (6) articles with a "Fortsetzung folgt" or "Schluss folgt" at the end, besides

there are three sections of a "Bandwurm" about "Eine reiche Frau" which has been dragging its interminable length through the advertising columns of that paper the past four or five months. Only old maids would read such trash. They have some very good things in Germany—beer for instance—but let us not emulate the German style of journalism.

Articles for a trade journal, particularly if it is a monthly, should be published complete in one issue and should be as concise as is consistent with the subject in hand; much can be said in a thousand words, but if for any reason the article is much longer, then it had better be published in the form of an insertion or pamphlet and this sent with the regular paper. I would respectfully suggest that you request Mr. Hillyer to furnish a sufficient number of reprints of his complete article "On the Cleansing Power of Soap" for insertion with the September JOURNAL, and believe such a kindness on the part of Mr. H. and yourself would be greatly appreciated by your readers and bring Mr. Hillyer's work to the notice of the soap people more effectively than if you publish it piecemeal in regular paper.

Very respectfully,

Aug. 18, 1903. A. M.

Soap Trade In Australia.

Habana, 17th de August, de 1903.

Dear Sir: As your correspondent Na_2 O-O H_2 says, some fancy soaps, American, English, French, etc., are sold in Australia.

As for household washing soaps, there is only one foreign soap sold in Australia, i. e. "Sunlight Soap."

The Australian public, like all others, buys foreign toilet soaps and Sunlight soap, not because they are better than those manufactured in Australia, but because they come from afar and have to pay a big price for it; whoever was ever a prophet in his own country?

A lady in Sydney was asking a friend in a druggist shop: *What is this "Savon" soap made of?* She was buying French *Savon* and would not buy American, English or Australian *soaps* for her skin, believing that this Savon was of a special composition.

American manufacturers, to be able to compete for the Australian soaps, will have to learn first to make soap in less than 6 or 7 days over a kettle and not to let it lay 10 or 12 days in kettle when made before framing, or about 1 month before their soap is ready for the market.

In Australia the soap is ready for market 7 days after tallow goes into the kettle and often in less time than that.

No, at present American manufacturers cannot compete with their Australian confreres for laundry soaps; they have woefully neglected the use of silicate, are too long making their soaps and in consequence need larger profits than the Australian makers to pay their way.

An American by birth, I was 27 years in Australia and had 9 factories of my own there, so I know what I am talking about.

Yours respectfully,

A. D'ESTAMPES.

Naval Stores Situation.

Editor American Soap Journal:

Dear Sir: Hon. Cromwell Gibbons, speaker of the late house of representatives, has favored me with a copy of the journal of the house on which is spread the patriotic "Appeal" made by Hon. Robt. McNamee and the bill he introduced. Mr. Gibbons highly appreciates your attitude and considers it as a great help in a cause which is by no means lost.

The publishing of that appeal and of the bill will enable your readers to judge of the magnitude of the fight and to accurately and intelligently gauge the situation. As I have already said, that situation is serious and concerns greatly the consumers of naval stores; in fact it affects the welfare of everyone of them, be they small or large consumers, and there is now on foot a movement which promises to make matters worse:—it will be the object of my next contribution, as this time your generosity is already too heavily taxed by this long communication. Yours very truly,

Jacksonville, Fla., Aug. 22, 1903. A. MOULIE.

[The text of the "Appeal" appears on another page: owing to its length and accummulation of other matters, we cannot possibly find space this month to also copy the bill, to our regret.—Editor.]

Patriotic Soap Makers.

Habana, 17th de August, de 1903.

Dear Sir: Regarding your editorial foot-note to my letter in last issue on above subject, I myself think that the *lather* is produced by the dissolution of particles of skin and dirt, and not by the soap.

A freely lathering soap does not necessarily cleanse any better than a slow lathering soap. I think in practice the *reverse* will be found correct.

As I said, I do not pretend to pose as an authority; I am painfully aware of my gross ignorance on all matters that concern soaps; I know nothing of chemistry as I said and many manufacturers who require chemists, etc., would very likely think me not worth $10 per week to make soap for them and doubtless rightly so.

I think, on trial, you will find that though alkali diluted in water, though it does not lather much, *will cleanse* and grease in water will not cleanse, but smear.

I have peculiar ideas of my own, have been called a peculiar man and a cranky soapmaker and that not very long ago.

I still believe that it is the alkali that cleanses and not the soap; that the soap merely acts as the conveyor of the alkalies.

No doubt I am wrong, but such is my belief.

Yours sincerely,

A. D'ESTAMPES.

An Appeal.

STATE OF FLORIDA.

JOURNAL OF THE HOUSE OF REPRESENTATIVES.

Thursday, June 4, 1903.

The following was ordered spread on the Journal:

By Mr. McNamee of Hilsborough.

AN APPEAL

To every Legislator, The Public Press, Every Right-Minded Man, Every Public Spirited Citizen, who has any interest in the welfare of his State, the prosperity, health and happiness of its people, and his individual well-being.

To arrest by hand, voice and vote, by any and everything in his power, the monstrous depredations now being perpetrated in the pine forests of Florida, by the remorseless methods of the naval stores interests operating in this State.

A powerfully organized body of men, whose only right in their present method, is the might of monopoly whose wholesale disregard of and callousness of the future welfare of this State is an anomaly, whose only motto is "destroy," and who are steadily, rapidly and absolutely destroying the greatset product of our soil, sapping the most vital interests of the State, devouring the people's birth-right.

Shall the interest of these few men be allowed to prevail over the well being and prosperity of the whole people?

It is a faet that the reckless boxing, as praeticed by the turpentine operators, kills a pine tree, log size, in from 3 to 4 years, leaving the tree worthless for any purpose whatsoever.

That fire and high winds are fatal to trees that have been boxed.

That saplings are not spared, the boxing of small trees kills them in about a year, thus leaving absolutely no chance of second growth. A wanton waste of the wealth of the soil.

That in all turpentine estimates and figures, 3 years is the average period for working an orchard—3 years to ruin a million acres of good timber land.

That over 300,000,000 boxes are already cut, which means that over 2,000,000 acres of Florida's richest timber land is on the road to utter ruin.

That inevitably the forests of the State will be utterly devasted in from 5 to 10 years.

That the impending wreck of our vast timber resources, the direful menace to health, the ruin of our climate, and the subversion of the wealth of the land, are almost unthinkable matters.

That in these destructive operations, as at present conducted, there is enormous and unnecessary waste of the products of the tree.

That the waste in gathering and distilling the sap, reaches to the frightful proportion of 50 per cent. of the total output of the tree.

That not satisfied with the work of demolition, the turpentine operators do not even manufacture pure products.

That in the reckless methods of gathering and distilling, no attempt is made to eliminate impurities.

That tests show 15 per cent of impurities in spirits supplied to the drug trade for medicinal use.

That about 40,000 barrels of kerosene oil are used for adulteration every year.

It is also a fact that there is a remedy accessible for all this, and already demonstrated to the turpentine operators, which will prevent this frightful waste, preserve the pine forests and conserve the interests of the people as well as the naval stores interests.

That this remedy lies in enforcing the operators to adopt the "cup" system of gathering the sap and employ a preliminary heating operation in distilling.

That the cup system has been in successful operation in France for more than 40 years, and has been advocated and demonstrated by Dr. Chas. H. Herty, of the United States Bureau of Forestry, in this country.

That it has been and always was recognized by the turpentine operators as efficient and successful.

That it must be abnormal disregard for the welfare of the State, that has prevented the operators from adopting the cup system.

That this system eliminates waste, turns out pure, high-grade products, increases the output from the tree and actually raises the value of the whole product.

That the life of the tree is unimpaired, its vigor remains, unabated, thus insuring an output for a lifetime instead of three years.

That, thus, the industry that brings great revenue to the people of the State, will be here for time indefinite instead of a paltry five or ten years, as has been the case with our sister States. We keep the "goose that lays the golden eggs."

IN BRIEF.

The life of the tree is not impaired, insuring maximum output.

The danger from fire and high winds is nominal.

The tree is always available for lumber purposes.

A lusty second growth is assured.

The life of the turpentine industry is indefinitely prolonged.

Land is worth more because it will produce more.

The income from turpentine land is a matter of a life time instead of a few years.

The question is, will you sit supinely down and let this unnatural transgression of all right and justice, travel serenely onward until the greatest natural resource in Florida is transferred to the pockets of the devastators?

The wealth of a State is not in its banks and great corporate institutions—it lies in the products of the soil.

Will you raise no hand or voice against the unjust absorption of this wealth by a few men powerfully organized?

Will you allow the interests of a few to prevail over the welfare of the State and the whole people, the health, the prosperity of all?

It is passing strange that no branch of a method of turpentining, so vital to the State and people, has reached the halls of this legislature of 1903. It has not been even remotely hinted, in the various bills already introduced, in alleged restraint of turpentining methods. Can it be that this cup system is the one thing the operators want to avoid?

Will you legislators cast no vote against such wholesale malpractice? Will you contribute nothing toward staying the hands of this grasping combination of greed and indurated power, that is riding rough-shod over every individual and collective interest in this State?

Within these pages that follow, you will find:

(1) A bill to be introduced into the legislature, by the Hon. Robert McNamee, which will cover the adoption of the cup system.

(2) A brief description of the present method of turpentining.

(3) A brief description of the cup system of turpentining.

(4) Comments upon each.

(5) Results and conclusions drawn from each.

(6) Articles from the Times-Union and Metropolis of Jacksonville, Fla.—(Sent by E. Moulié.)

(7) Open letter addressed to the Representatives of this State at this legislature by Mr. E. Moulié, chemist, Jacksonville, Fla.

PRESENT METHOD OF TURPENTINING.

(Extracted from Amer. Soap Journal for Jan., 1891.)

As practiced by the operators in Florida and neighboring states, beginning in October of each year, a hole or "box" is cut in the tree, near the ground, about a foot across, 6 or 7 inches high, any old depth, and with the bottom slanting toward the center. In the spring following, the sap flows up the pores of the tree and bleeds into this box.

Gathering the sap or "dipping" as it is called, begins in April and is performed with a chisel-shaped iron about 4 inches wide, attached to a handle 4 feet long. The laborer dips this chisel into the box and flirts the sap toward a bucket, placed on the ground as near the tree roots will allow. It is supposed he gets two-thirds of it, the rest is on the ground.

After a couple of dippings the tree is "chipped" above the box. That is, a shaving a half-inch wide, is pulled off above and from each side of the box, with a hooked blade attached to a two foot handle. Sap of course flows freely from the fresh cut. This operation is called 'pulling bark.' The chipping is continued, at intervals, up the tree until October. As the tree is scored above the box, as much sap often runs to waste as is caught by the box.

After the dipping season the trees must be scraped to obtain the sap, in the shape of white gum, which has accumulated on the chipped face. This is done by scraping off the gum with a wide chisel into a rough trough made for the purpose. It is presumed that the laborer gets a part of the gum this way, the rest on the ground.

The sap reaches the still, well mixed with chips, twigs, pine leaves and dirt from the trees and ground, and is poured, as it comes into the still. When the turpentine has been distilled from the sap, the residue in the still, a mixture of chips, dirt and liquid rosin, is poured over a course wire screen, covered with cotton batting, and into a trough underneath. This is the commercial rosin. When the mixture on the screen begins to harden, it is dumped out, cotton and all.

WASTE.

It is evident that from beginning to end of this method there is enormous and unnecessary waste and yet the operators persist in the practice and application of it, in the face of what has ben shown conclusively to be a far superior method. Besides every still can be found tons and tons of rosin gone to waste and what with this and the waste of the sap that does not reach the boxes and of that which is flirted over the ground and all the other waste put together, there is doubtless a loss of half the waste put together. This can be saved by the adoption of the cup system and of a preliminary operation before distilling.

THE CURSE OF BOXING.

But while this frightful and unnecessary waste is a matter of great concern to all, because it is squandering the wealth the soil produces, it is of secondary moment, in the face of the unthinkable menace to the State and all its people which is contained in the "boxing" of trees

as described by the turpentine operators and farmers of this State. It is impossible to overstate or overdraw the condition that will surely ensue if these methods continue.

In all estimates and figures, in turpentine operations, 3 years is the average period for working an orchard. Think of it —3years to ruin a tract of timber after it is sold or leased for turpentining.

The trees are back-boxed from the start, large trees often have three boxes. The first box cut in a tree, will cut off about one-fourth of its trunk, in a medium sized tree, and the next cut much more. Where large trees have three boxes, more than half the trunk is cut off, while in all cases where a tree is back-boxed, the width of the bark between the chipped faces, does not exceed 4 inches and is often 3 inches.

Outside of the danger from fire, which is fatal to a tree that has been back-boxed, and high winds, which blow down thousands of trees in this condition, this means the tree is ruined from the start, its strength and vigor impaired and it is killed within 3 or 4 years of boxing. A wanton waste of wealth of the soil. It is said that more than 20 per cent. of the boxed timber is killed in the first year.

Be it understood that even with this method and only boxing the tree on one side, at a time, chipping up about one foot per year, a turpentine orchard ought to be productive for 15 years. But no, the operators do all this in about 3 years and not satisfied with killing the log-sized trees, in this time, they box the saplings, thus leaving absolutely no chance for a second growth. Boxing small trees, kills them in about one year, which if allowed to grow, would become marketable, then could be boxed and still leave some value for lumbering purposes.

THE INEVITABLE RESULT.

To put the matter into figures, a crop is the sap from 10,000 trees, commonly covering 100 acres. One still will handle the product of 30 crops, 300,000 trees or 3,000 acres. There are upwards of 400 operators now in the State of Florida. It is estimated there are about 300,000,000 boxes cut. Supposing that a portion of the trees have 3 boxes and the small trees only 1 box, it is fair to assume that at least 200,000,000 trees have already been boxed. This means in unmistakable figures that at least 2,000,000 acres of Florida's richest lands are already on the road to annihilation.

IF WE STOP TO THINK.

It must be seen that in from 5 to 10 years, the forests of the state will be utterly devastated and we will join our sister states in mourning for desolated lands, millions of acres of which, not suitable for cultivation can only produce the pine.

A fitting deduction from these facts, is to say that, any state, in which the turpentine industry has reached a large point, and to the extent and in the manner in which it is carried on, suffers or will suffer in a deterioration and loss of its forests, much more than it receives from this industry. Consequently it would be better if the turpentine business were absolutely prohibited in any state having important timber resources.

ADULTERATION.

Successful distillation should extract all the spirits in a pure state; it should leave the solid constituent, rosin, pure and nearly white, and there should not be any impurity or residue left after the operation is over. These results can be obtained by the elimination of every impurity before charging the still. From the foregoing it is manifest that the contrary is true of the practice of the operators in this country.

Reports of a test made by Mr. E. Moulié, chemist, Jacksonville, Fla.—in an experiment with several gallons of spirits, selected from different makers, no less than 17 ounces of impurities of a disgusting nature were found per gallon of spirits. *The spirits were supplied to the drug trade for medicinal use.* This represents about 15 per cent. impurities.

It has been established that about 40,000 barrels of kerosene oil have been used for adulteration every year. Kerosene is worth about 8 or 10 cents per gallon. The reason for its use is obvious.

As a result of the use of the cup system in France, practiced for more than 40 years, it is almost impossible to find impure turpentine products. Their high-grade and purity would put to shame the products turned out in this country.

The remedy for this alarming and menacing condition is found in the adoption of the "cup" system, lately exploited by Dr. Chas. H. Herty, of the Bureau of Forestry, Department of Agriculture of the United States, as follows:

THE CUP AND CUTTER SYSTEM OF TURPENTINE.

Used in France for over 40 years, and lately advocated by Dr. Chas. H. Herty, of the U. S. Bureau of Forestry, in this country.

Instead of the destructive box, an earthen cup, shape of a flower-pot, of the same capacity as a standard box, is used to catch the sap. The cup is suspended by a half-inch hole in its rim, from a nail driven into the tree. Two flat faces are chopped with cornering axes and has inclined converging incisions is made in each face, about an inch lower than the other, for the reception of two sheet iron gutters. These gutters sloping downward toward each other, carry the sap from the upper to the lower and thence into the cup, which hangs about an inch below the bottom end of the lower gutter. The half-inch nail hole in the cup permits an overflow of water in time of rain, without loss of gum, and at the same time forms a seal which prevents evaporation.

Each season the cup and gutters are moved up and placed immediately below the streak, thus insuring a yield greater in quantity and of better quality than is possible where the gum must flow over a long dry face to reach the box.

In dipping, the accumulated scrape is first removed from the gutters by means of a dipping knife, made for this purpose, and pushed down into the cup. The cup is then removed from the nail and by a circular movement of the knife is emptied into the bucket, thus eliminating all waste, the sap in the cup is cleaned of all impurities, leaves, twigs, etc., before emptied into the bucket.—[*American Soap Journal, May,* 1891.]

The scraping of accumulated sap from the faces, after October, is also conducted with great care, with sack cloths placed around the tree to catch all that falls.

In distilling nothing is lost. Before distilling, the accumulated sap is put into a bowl-shaped, tin-coated copper kettle of the capacity of two distillations, set over a furnace and heated sufficiently to liquify, thus permitting all impurities, then in suspension, to settle to the bottom of the kettle. The sap is continuously stirred, with a long spatula, for a period of from 6 to 8 hours and then is left to itself over night. In the morning all the impurities are at the bottom of the kettle, in nearly a solid mass and are not disturbed by the operation of transferring to the still. This is done with long-handled, tin-coated copper pans, with which the purified sap is poured through a sieve lined with straw, which is placed at the mouth of the still, thus removing impurities left.

By virtue of this preliminary heating, the distilling leaves almost no residue of impurity, still the liquid rosin is filtered through a fine brass sieve instead of a course copper sereen, in order to produce the highest possible grade of rosin. The product is a rosin that resembles a fine block of flint and the residue does not amount to 2 pounds for an operation of 12 barrels.

RESULTS.

The advantages of this system over ordinary methods are so great, so important and so varied, that nothing short of abnormal indifference and disregard for the welfare of the State and its people, ean refuse to accept them.—(Am. Soap Jr., May, 1891.)

QUALITY.

It is easy to see that this preventative treatment throughout, cannot but produce a very different class of goods, both liquid and solid. The grade of the products is vastly improved throughout and particularly during the second, third and fourth years. Higher grades must bring higher prices.

QUANTITY.

Instead of killing the tree in from 3 to 5 years, its strength is left uninpaired; therefore in a healthier condition and conducive to a greater flow of sap. By offering a similar face for the sap to flow over and providing the seal in the cup, there is far less evaporation. By actual test at Ocilla, Ga., where half a crop was worked by the cup system against half a crop with boxes, it was found that production of turpentine was 23 per cent. more by cup system than by boxing and the yield of only the higher grades of rosin.

WASTE.

It has been shown that by the cup system there is almost a total absence of waste in the gathering of the sap. Whereas, under the old system, three barrels of the product were lost out of every seven that came from the tree. Under the new system there is practically no loss; therefore the operator could afford to work nearly half as much land with the cup system and secure the same results as if he worked twice as much the old way. Add this to the saving in distillation, as outlined above, and it means that the operator can get twice the product from his orchard with practically the same expense of operating.

OTHER ADVANTAGES.

When once a tree has been worked out under the old system, it costs quite as much to box a new tree, while the cups and gutters are readily transferred from a worked out tree to a new one. Further, by the great saving in labor, there will always be a supply of hands where there is now a lack.

PROFIT AND COST OF EQUIPMENT.

The figures from the test at Ocilla, Ga., show that the excess sales of the first year's crop secured by the cup system over that secured by the box system, were $413. To cut boxes for a crop costs $200, while to put in the cup outfit costs $350, but the sales when the cup system is used are so much greater, both because of the quantity of gum secured and the superior quality of it, that not only is the output paid for out of the excess yield, but there is still a balance to the good of $263. These figures show the profits merely for the first year; the profits for the second year are much greater, through the saving by the new method of the evaporation of the gum, and the deterioration of the rosin which takes place under the old system. Excess profit on second year would be $341, on the third, $513, on the fourth, $516.

THE CONSERVATION OF THE FORESTS.

But, to put aside all the advantages above enumerated, the profits to the naval stores people, the purer and higher grade products, the elimination of waste, etc., the vital and all-absorbing duty of the people of Florida is to put a stop to the wholesale destruction of the great pine forests of the State, now being ruthlessly accomplished by the methods of a body of men whose greed is insatiable, and whose utter disregard of any right but their own right, is monstrous.

This can absolutely be effected by compelling them to use the cup system as advocated by Dr. Herty, and briefly outlined in the foregoing. Add to this a law for the protection of saplings and the State will preserve its forests, the naval stores operators will increase their profits, and the industry that brings so great an income to the people of the State will be here for time indefinite instead of a paltry five or ten years, as has been the case with our sister states.

The life of the tree is not impaired, its vigor remains unabated, giving the maximum output of sap without injury to itself, the danger from fire and high winds is nominal, the tree is always available for lumber purposes, a lusty second growth is assured, the life of the turpentine industry is indefinitely prolonged, land is worth more because it will produce more, and the income from turpentine land is a matter of lifetime instead of a few years.

Verification of these statements can be had by inquiring of the Bureau of Forestry at Washington, D. C.

The Millionaire's Opportunity.

BY ROBERT BARR.

Reprinted from the *Saturday Evening Post* of Philadelphia. Copyright, 1903, by the Curtis Publishing Co.

Comparatively speaking, Sidney Austen was a poor man; that is to say, his possessions might realize anything from nineteen to twenty-five millions, depending on how shrewdly they were disposed of; still, he was recognized as a coming factor in the financial world who would ultimately make his fortune, if prosperity continued, and perhaps own a railway or two in the near future. In personal appearance he seemed little more than a boy; nevertheless, he was a great deal older than he looked. His closely cropped black hair was still without a streak of gray and his smoothly shaven face deceived the casual guesser at his years. He had inherited a good constitution, and in his early life the outdoor work on the farm with the homely but healthful fare of the agriculturist had given him a stock of health to start when he came to the city, but as his bank account increased he found he had drawn heavily on the balance of health to his credit. This was why the celebrated specialist had been looking him over for half an hour.

"There is nothing organically wrong with you," said the doctor a little doubtfully. "You've been thinking too much and too hard for too many years right on end, so your vitality is a good deal lower than it ought to be. How would it do if I were to prescribe a little run to Europe, for instance, on a slow steamer?"

Sidney Austen shook his head.

"Utterly impossible at the present moment, doctor. Can't you give me a tonic to brace me up for a while?"

"Sea air is the best tonic," continued the doctor; "sea air for your lungs and a rest for your brain."

"No good, doctor, I couldn't stop thinking if I tried; and to be out of touch with all creation on an ocean liner just at this juncture would add worry to the thinking, so I fear your prescription would do more harm than good."

"I want that calculating apparatus of yours to have a month's rest. Can't you interest yourself in something that won't matter whether it goes right or wrong? Do you photograph, or motor, or climb mountains, or camp out? What is your fad?"

"Money-making," snapped Austen with decision.

"What's your favorite recreation, then?" asked the doctor.

"Money-making," repeated the millionaire.

"What did you do as a boy?"

"Ploughed in the spring, pitched hay in the early summer, cradled wheat later, husked corn in the fall and fed cattle during the winter," replied the millionaire with a smile.

"Useful occupations," retorted the doctor, a twinkle in his eye, which seemed to imply that he looked on the millionaire's former activity as being of more use to the world than his present employment; but the professional man was the intimate of the rich and never said anything undiplomatic. "Do you own a farm now?" he continued.

"Several hundred of them," replied Austen.

"Well, can't you knock off for a month and renew your youth pitching hay again?"

"I may go and husk corn in the autumn, but to tell you the truth, doctor, I dare not leave New York just now, so the agricultural interests of this country will have to get in their hay without my assistance. Unless you say I'm in a critical condition, I think we'll have to fall back on your bottle of pick-me-up."

"No, your condition is not critical," admitted the doctor, rising, "but the trouble I see is that you will postpone and postpone, until your case is serious. Is your present deal an important one?"

"Oh, a matter of five or six millions. I've got everything straight and the end's in sight, but the situation will bear watching for six weeks or more."

"I wish you would spend those six weeks up in the woods with a gun, or whipping a stream with rod and line, or even tramping over the country with a camera; but of course all that would do later if I were sure that another deal would not quickly follow this one. Anyhow I'll send on a bottle of tonic, and if you can let up on mental arithmetic as much as possible we'll talk about husking corn when the weather gets cooler."

The doctor took his departure and Sidney Austen,

glancing at his watch, left for the secret meeting of the Soap Trust where, as the promoter of that organization, he was to occupy the chair.

Everybody was in place when he entered the directors' room at the Austen National Bank, and important people were waiting with some impatience for their chairman. Sidney Austen nodded to this man and that, walked to the table, and took his seat without explanation or apology for being seven minutes late. Even if he had been older or of less importance he was a man to make his influence felt in any gathering that included him. He never raised his voice above its ordinary tone, was never angry, never enthusiastic. His penetrating eye had an effect that was almost hypnotic, and a word from him did more to overcome opposition than the most impressive eloquence of others. He seemed invariably so calm and sure of himself hat it was a brave man who ventured to oppose him.

Before he opened the door of the directors' room he heard the sound of a heated discussion within, but his mere presence quelled this instantly, and, as he walked to his chair, complete silence reigned. His manner was almost always conciliatory and he would make any concession asked for so long as it did not impinge on the nub of the business, but once that was reached Austen was immovable, although scrupulously polite, and even deferential to his opponents.

Seated in the chair, he drew toward him a document which he glanced over rapidly as the others took their places up and down the long table. It had ben rumored that there was some division betwen various members of the syndicate regarding the method of procedure, but all the larger holders expected that Sidney Austen would speedily quell any revolt that might show itself. It was always the smaller men, the minority holders of stock, who made a fuss, and who considered they would carry through a deal more successfully than the giants of the business. Sidney Austen, at the first rumor of divergence, had quietly made his position impregnable by either buying or securing options on all the leading soap manufactories of the country, and he alone knew that the deal was bound to go through, no matter who opposed it. He could have got up in his place and said so with a brutal directness that would have smothered discussion at the outset, but that was never his way of doing business. Conciliation was always the keynote of his action. He would rather win a man to his side than beat him down and trample over him.

"Gentlemen," said the chairman quietly, "I take it this meeting is purely formal, and all that remains to be done is to affix your signatures to this document, which each of you has already read and approved." Saying this, Mr. Austen took up a pen, wrote his name on the paper and pushed it to the man at his right hand. The person on the right was about to sign when a man near the foot of the table sprang up.

"One moment, Mr. Chairman," he said. "I agree with you that we have all read the document, but I do not agree that we all approve. I, for one, do not approve, and I think I may say there are others with me."

Austen leaned back somewhat wearily in his chair.

"Very well, Mr. Stretton," he said slowly, "let us hear the objection."

"My objection is," shouted Stretton, "that we are throwing away money. There is no sense in buying up all these smaller factories. Let 'em shut up shop or we will crush them. No single manufacturer can stand out against this combination. Now I venture to say that I could carry through this deal at something like a million less than this document proposes, and I don't see the use of our throwing away a million. I want my share of it."

Several others seemed to want their share of it, too, for there was a murmur of approval to greet this emphatic statement.

The chairman made no comment but leaned back with half-closed eyes as if he took very little interest in what had been said. The man at his right, who sat with pen poised in the air, glanced at the chairman, and seeing he had apparently no intention of replying, said firmly: "The smaller factories, if left out, are sure to combine, and so instead of wiping up the business clean we leave the elements of competition and opposition against us."

"That's nonsense," cried the man at the lower end of the table. "What can a parcel of factories scattered all over the country, that at the utmost could not be capitalized for more than a million, do against our combination of thirty millions? We can snuff 'em out as easy as that," and the man snapped his fingers over the table.

Still the chairman said nothing, and drawing courage from his silence, two or three others rose consecutively and agreed that if a million could be saved it ought to be. One benign old gentleman, who seemed disappointed that the chairman had not throttled this discussion, which showed signs of becoming formidable, spoke deprecatingly of the proposal to crush his fellow-man, but he was answered up and down the table by the phrase that business was business, and that incontrovertible aphorism shut him up.

At last the chairman seemed to wake, and bending forward said sweetly: "How long do you think, Mr. Stretton, it would take you to form this combination that would save us a million?"

"I could do it in three weeks," replied Stretton, somewhat less boisterously than he had spoken before. He seemed rather bewildered to be taken so abruptly at his word and there was a perceptible diminution in the con-

fidence of his attitude, but he could not now withdraw, and his friends looked anxiously at him and the chairman alternately.

"Very good," said Austen quietly. "I propose that we adjourn this meeting until to-day month, unless Mr. Stretton calls it sooner. Time is money, and if Mr. Stretton con transform thirty days into a million I think I can promise him a unanimous vote of thanks."

It was evident that this temporary abandonment of the meeting did not meet the approval of many there present, and a murmur of conversation filled the room as Mr. Austen rose and pushed back his chair. Almost instantly two groups formed, the larger round Sidney Austen, while the smaller and more excited portion gathered around Stretton. Trust-forming is a precarious business at best and the shrewder heads of the meeting were uneasy over the proposed loss of a month, where, in every sense of the word, time was the very essence of the contract. Anything might happen in a month; the risk of publicity alone was not one to be taken lightly. They quietly cursed Stretton's interference, but nevertheless were extremely dissatisfied with Austn's method of dealing with it. He should have sent round the paper, they thought, and if any one refused to sign let him take the risk of his refusal; but to postpone matters for another thirty days at this critical juncture, when everything was ready for striking and the iron was hot, seemed to them faulty business tactics.

Austen smiled on them all, a smile winning but inscrutable. He offered no excuse for the abrupt termination of the meeting. One of his friends smote him on the shoulder and said:

"I tell you what it is, Austen, you look tired. You ought to go and take a rest;" while another made the remark:

"Stretton's talk is enough to make any one tired. Let us all take a vacation until he forms this combine."

Meanwhile Stretton's friends in the farther corner were consoling him with the remark that he was "up against it," and they wished him luck in tones that very clearly expressed their doubts that he would succeed. However, Stretton talked very free and large and assured them the meeting would be reconvened within a week, and then they would see what had happened.

Getting clear at last of friends and opponents, Sidney Austen walked slowly up Broadway deep in meditation. Usually his step was brisk and he trod the pavement with the air of a man who owns the city; now his eyes were on the ground instead of gazing straight ahead of him, and it was plain to be seen his mind was troubled. The prospect of the combine did not worry him in the least; even if the newsboys were shouting it on the street it would not have mattered, for everything had come his way and he had made his bargains. Stretton would soon discover he was butting his stupid head against granite. The real trouble would come when the Trust was formed and when its organizers would have to make good interest and dividends on the enormous sum for which it was capitalized. It was this problem, now fortunately postponed for a month, that Austen feared. He wondered if there was more in the doctor's words than they seemed to convey. If failing health should evertake him now, the situation was indeed serious. For a year or two the Trust would demand all the iron energy he could bestow upon it, and his present feeling of lassitude was most disconcerting. He almost resolved to visit one of his farms in Northern New York and toss hay, as the doctor had suggested, during the month that must elapse before the great struggle began, and the hills and dales of this farm was at that moment before his eyes instead of the tall buildings that overhung him and the hurrying crowd that jostled past him. If his mind had been in town instead of in the country he would have noticed two things that concerned him. First, the evening paper contained huge bill-board letters which read like an advertisement:

GOOD EVENING.

HAVE YOU SUBSCRIBED FOR AUSTEN'S SOAP?

GIGANTIC SOAP TRUST, RUNNING INTO MILLIONS.

Will it Wash?

The publicity which his colleagues had feared was already upon them, and if Austen had noticed the news he would know that some of his friends were exceeedingly anxious.

The second thing which concerned him was the fact that an elderly man had passed him three times within as many minutes. He was coming down Broadway when he met the young man with troubled brow and downcast look. He paused a moment, turned, sped past him, turned again and met him the second time, scrutinizing him keenly. This action he repeated a third time, then smote Austen a hearty blow on the shoulder that brought him back from the country quicker than any railway train could have done.

"See here, my son, are you out of a job?" cried the stranger with a hail-fellow-well-met familiarity that grated on the cold sensibility of the younger man.

Austen silently regarded his tempestuous interlocutor for a moment, but resentment faded before the glowing geniality that radiated from the face of the other. His straw hat was pushed to the back of his head, displaying the gray locks in front, yet the merry twinkle in his eye contradicted the first impression that he was an old man, while there was an apple-blossom innocence about his chubby wrinkled face that made it impossible for any of his fellow-creatures to be angry with him.

"Say, young man," he repeated, "you're out of a job, aren't you, now?"

"Well, in a manner of speaking, I am," said Austen very composedly.

"I knew it; I knew it the moment I set eyes on you. That young fellow is down on his luck, I said, and I dodged round and took a second squint at you. Now, my lad, you mustn't be discouraged. The darkest hour is just before dawn, you know. I am one of those who can read faces as easy as others read the page of a book and you've got the face of a man who's going to succeed. I don't mean succeed in the way of getting a good salary, which is probably what is in your thought at the present moment, but I mean you're going to be as rich as Crœsus yet. You mark my words.

Austen was a head taller than the enthusiastic little man and he looked down at him now with a slight smile touching the corners of his lips. He said to himself, "Is this a new kind of bunco-steerer and is the hayseed still in my hair that I should be accosted thus on the main street of the metropolis?"

Before he could frame any kind of reply that seemed suitable for the situation the little man had another question to fling at him which, strangely enough, coincided with the thoughts just passing through his mind.

"You're from the country, are you not?"

"Yes, I am," admitted Austen, while he smiled broadly.

"That's all right, nodded the other; "I felt sure of it. No city man strolls along this street as if his shoes were soled with lead. We hold our heads up in New York, every man thinking himself just a little better than the fellow he meets.

"Have you stopped me on the street to tell me this?" asked Austen quietly.

"No, sir; I have stopped you to tell you that at this moment I am in need of a first-class man. One glance at your face showed me that you were the person I was seeking. I want a man and you want an opportunity. Isn't that so?"

"Very likely it is."

"Of *course it is.* You know you want an opportunity and some cash in hand, and you've to take my word that I want the man. Now, my friend, let us go to a saloon where we can talk quietly: besides, it's a hot day and I want a drink."

"Thank you," said Austen, remembering that bunco-steerers and confidence-men always brought their victims to some drinking place; but his interest and his curiosity were roused and he wondered what the little chap's game was. "Thank you, I don't drink, but I don't mind going with you where we can talk."

"Don't drink, eh? All the better; all the better. You stick to that, young man, and you'll never be sorry for it. I'm not what you'd call a drinker myself, but I don't mind a glass of beer with the mercury rising. I know a quiet place down the next street. Come along."

The enthusiast led him round a corner and into a very clean and cool back room of a saloon which contained chairs and several tables. Here he pressed a button and the waiter did the rest. As Austen sat back in his chair looking across the table at his host taking a long draught of cooling beer he made up his mind that this was the enthusiastic successful man of ten or twenty years ago: the kind of person who made a million and thought he was rich—a Colonel Sellers, whose dreams had come true; the man of many ideas up in a balloon to-day, wildly over-confident and down in the gutter to-morrow, easily depressed. In fact, Sidney Austen flattered himself that the successful man of the future was looking across the table at the successful man of the past. The successful man of the future was silent, resourceful, potent, and utterly without brag or bluster. The very first remark made by his vis-à-vis when he set down his glass corroborated these impressions.

"Now, my friend," he said, "you see before you a man who has made three fortunes and lost half a dozen. Yes, sir, three times in my life I have been rich; not rich as perhaps it would be counted nowadays, but still I had enough, if only I'd had the sense to keep it. I was not a John D. Rockefeller, do you see, but a Jay Cooke, if you can remember him, although you are too young to know much about Jay Cooke."

"I have heard of him," said Austen.

"Well, his failure cleaned me out the first time. I made another fortune on wheat in Chicago and lost that in a gold mine. Oh, it was a gold mine all right enough, but worked with machinery reversed; that it, it exhausted gold instead of producing it, and it used up all of mine. I made another fortune in Grand Rapids on a roll-top desk. I patented and then lost it all in trying to fight a huge furniture combine. Now I'm going to make another fortune, and then I'm going to quit. Yes, sir: I've got sense enough to know when to stop this time, and don't you forget it. There's only my wife and myself and we don't need very much. To tell the truth I set my figure at a limit that will astonish you. I want only a hundred thousand dollars, and I'm going to put that in Government securities, and then the wife and I are going to live in rollicking luxury on one of the prettiest farms that lies outdoors which we own in Michigan, bordering on a lake that's as clear as crystal. By Jove, I was just thinking of that farm and those woods and that lake when I caught sight of your face a minute ago."

"By a curious coincidence," said Austen, thawing in spite of himself, "I, too, was thinking of a farm in Northern New York that has a stream running through it where I used to fish when I was a boy."

The other threw back his head and laughed heartily. "By Gosh!" he cried, "we were two hayseeds meeting on

Broadway, weren't we? All we needed was a third man with a gold brick. Well, he wouldn't have got much out of me, and I don't suppose you're in any better fix."

"If this is a gold-brick man himself, thought Austen, "he has a sense of humor and some idea of originality. I wonder what his game is, anyway."

"Now let us get down to business, said the elder man, drawing up his chair and pushing aside his glass. "My name is Welland Hammond, late of Chicago, late of Grand Rapids, and late of a good many places, but now of New York City. What might your name be?"

"I am called Sidney, and I am from Northern New York, as I told you a moment ago."

"All right, we'll consider ourselves introduced. Now, Mr. Sidney, the moment I clapped my eyes on your face I said to myself there's the chap I want to join me. You see, I'm going on in years and I'm not just as active and pushing as I used to be. I want a fellow who has his way to make, who is energetic and can see just a little distance ahead of the salary he receives every Saturday night. Now, to prevent mistakes, I'll tell you right at the start that I can't pay you more than fifteen dollars a week—now just now I can't; but the moment the business begins to show color of gold you'll get your share. I warn you, my friend, it's just the greatest opportunity that ever ran up against a man who was out of a job, and I want to impress on you this fact, that all a young man can ask of Providence in this country is reasonable good health and an opportunity."

"I quite agree with you," remarked Austen fervently, remembering that he had forgotten his own health ever since he had met this cherub.

"Now, you see, I've got the germ of one of the biggest businesses in this country, and I tell you frankly that I don't want all that's in it. I want to pull out of it one hundred thousand dollars between now and five years hence. And after that the business is yours, if you're the man I take you to be. At the end of five years or so we'll form this into a company, I'll get my little hundred thousand, and you'll go on till you make millions. I can see it in your face. Because I want to hire you, I don't pretend at all that you aren't a first-class man worth ten times or a hundred times what I can pay you. I want you to realize the kind of a man you are—to realize that you're a winner, and that everything's going to come your way."

"It is very gratifying to hear you say so," murmured Austen with a smile.

"Oh, I'm not flattering you at all. Why should I? I don't suppose at this moment you have ten dollars in your pocket."

Sidney Austen ignored the remark and inquired:

"What is this business the nucleus of which you hold in your hand?"

Hammond leaned his elbows on the table and looked shrewdly across at his questioner.

"Now, young man," he said, "it isn't in the big things that money is made by men like you and me; it's by selling something that everybody wants, which has four hundred per cent. profit on it, more or less. Rockefeller takes his comfortable little stipend of $50,000,000 a year or so by selling oil at ten cents a gallon. Now, sir, will you tell me what it is that every man, woman and child, except the tramps, in this country uses once a day at least, which doesn't cost more than ten cents at its dearest, that uses up quickly, and that every grocer must keep?"

"Soap," jerked out Austen, and instantly his alert brain formed a new suspicion. Did this man know him after all, and was this an elaborate joke over which his friends would be laughing to-morrow? But a glance at the optimistic Hammond partially dispelled the suspicion. The little man brought his fist down with a bang on the table that made the glasses dance.

"By jingo!" he said, "you're as sharp as a steel trap. Guessed it the first time. Yes, sir; soap is what I mean, and I've got a receipt for making soap that will wash out original sin, so help me! It's the best soap in the world; nothing on the market approaches it. I used to make it up in Michigan when I was a boy, and one day my wife —she's a Michigan woman, you know—said to me. 'Welland, what a pity it is we can't buy, nowadays, the kind of soap we used to make outside of Grand Rapids,' and the idea came to me like a flash that the man who put that soap on the market has a fortune if he only can let people know of it.."

"Ah," said Austen, "if you can only let people know of it. There's the point in your scheme that requires money. How can you hope to compete with the big and wealthy firms in the business unless you have capital?"

"Well now, look here, my boy," said Hammond, pushing his hat still farther back, and gesticulating wildly with his right hand. "Some things can be done as well as some others, as Sam Patch used to say. That's where I want you to help me. You have a convincing eye in your head. I can outtalk you farther than you could outrun me, but I couldn't persuade people as you can."

"Oh, I don't know," said Austen with a smile;" you seem to be persuading me in spite of myself."

"Oh, that's easy," cried Hammond; "you want to work, you want something to do, and it's easy persuading a man whose pockets are empty. He has nothing to lose. What I want you to do is to go round to the newspapers and get acquainted with the business men and persuade them to give me a page advertisement in their papers and forty days' time on the payment."

"Um," remarked Austen doubtfully; "and suppose the money doesn't come in before the forty days are up?"

"But it will come in; it's *bound* to come in. If you can get me the space I'll write the ads. that will make the dimes just fly out of the pockets of every man or woman that uses soap."

"Look here, young man, let me give you a tip that will be of use to you when you begin business of your own. It's by going in for a big thing that you get anything at all—that is, on trust, I mean. Now look at me with my materials. I have taken a big four-storied house right here in New York, and I've got every room in that house filled with packets of Hammond's soap done up for postage. Now, how do you imagine I got the material? If I go round to a store and ask for a pound of tallow I've got to plank the money over the counter or I don't get it. If I shove it into my pocket and nod at the man and say I'll come round to-morrow and pay you for this, he'll have me by the collar before you can say Jack Robinson. I don't get out of the store till I've plastered the silver on him. But if I've got a first-rate letter-head with a good address on it, the Hammond Soap Company, registered under the laws of the State of New Jersey, and I have a typewritten letter asking for quotations for ten thousand pounds of tallow, you bet the manufacturers are anxious for my custom. They hand me in a quotation and call thirty days cash. I hand them in a kick and say I'm dealing on a sixty day basis, and by Jove! I get the stuff. Now, when you tackle a business man on a big newspaper, you remember the keenest thing he's after is advertisements, and that's what you've got to offer. The point he'll boggle on is the forty days' credit. He wants your ad. and he wants it bad. Now, what you've got to do is to overcome that little reluctance about the forty days. There's your job cut out for you. Now, I suppose coming down Broadway I must have met a hundred thousand people, more or less, but there's only one of that hundred thousand that can do the job I'm setting out for you, and it's because you can do it that I'm sitting at this table with you."

Austen smiled as the little man ceased speaking. After all, enthusiasm is not to be sneered at. In spite of himself he found that he was succumbing to it.

"It seems to me," he said, "that if you succeeded with the tallow and the rest you would succeed equally well with the business managers of the press."

"I don't know but I might, I don't know but I might," admitted Hammond; "in fact, to tell you the truth, one paper did promise me a page; but the trouble with me now is that this advertising is too vital—I simply must have it. Here is my house chock full of soap from cellar to garret; my wife and I cooked it in the kitchen, and then we did the wrapping of it up in ten-cent packets with a catchy lithograph on the outside, working night and day. Why, we hardly got any sleep for two weeks; and now, by George! there isn't a room to sleep in. Soap everywhere and not a nickel to get anything to eat with, as the poet remarked. So you see, when I approach a grasping business man on a big paper I'm too anxious and I can't help showing it. This makes him suspicious and his natural desire for ads, is nullified. Now, you go into the business as cool as a cucumber. You dicker with him over the price and squeeze him down to the last cent. You show him that this is one of the biggest orders he's had for a year past, and the anxiety will be transferred to *his* shoulders. I know perfectly well that you'd talk just a hundreth part less than I'd do, but every word would touch the spot. Yes, sir, I bet you'd have that man calling you back from the door, begging you to take two pages at sixty days."

"Your belief in my powers is very flattering, but nevertheless, although the day of payment is postponed, the day of reckoning comes round. You have no money, as you have just admitted. Very well—what is to hinder one of the big firms in the same line of business taking a page next day and double discounting your offer? They could afford to do it, whereas with you it is 'Pike's Peak or bust.'"

"Look here," said Hammond, leaning across the table; "I wasn't afraid of the big firms in the first place and I'm not afraid of them now. There's not one of them alert enough to do what you suggest. Of course, it would be the right thing to do, and that shows I wasn't mistaken in selecting you, because what you have outlined is exactly what they *should* do, only I tell you they won't."

"Why won't they?

"Because they've got something else to think of. Have you seen to-night's papers?"

"Why, then, look here."

Hammond pulled out of his pocket a crumpled sheet that looked like a poster and spread it out before the millionaire, and he saw at once that his own doings had been given away by somebody. He scanned the paper with absorbed interest. Hammond was delighted.

"That's the way to take it, my boy," he said; "that's what I like to see—a man's eyes wide open to anything that attacks his trade. Now, you see those soap factories have got something else to think about at the present moment, and that gives you and me our chance."

"I wonder if all this is true," murmured Austen.

"Oh, no, it isn't likely; still there may be something in it; but if that man Austen has charge of the scheme it will go through, you can bet your boots."

"Well, how will that affect our prospects?"

"It won't affect them at all. They'll be months getting the thing organized and we'll be advertising in every direction. You see a Trust is all right enough when the opposition sells to a limited clientage; then they can

jump in upon a man's customers, cut down prices below cost of manufacture and bust him. But you see, Mr. Sidney, they can't bust us, for our customers are going to be spread all over the United States; and one thing a Trust can't run up against, that that's the advertising columns of a newspaper. We appeal to every reader of every paper. Send ten cents to pay cost of packing and postage and you get the greatest soap in the world. Now, of course a man can go to the grocery store and get a ten-cent cake of soap all right enough, but he loves to have something for which he has paid only the price of packing and posting. We're going to make our fortune on samples. I'm not going to try to sell this soap to the groceries at all. It's going to be a sample business, and then, of course, when a person likes the soap we'll supply him direct or through the grocer, just as you like. Why, if you'll tackle the papers and get me space, I'll guarantee that we have the biggest business going in less than three months."

"I'm afraid you overrate my ability. I feel certain I couldn't persuade newspaper men to give credit for such a large amount unless something was paid down."

"Why, look here, Mr. Sidney—just look at you and me here: I'm the employer; you're the man out of a job. Very well. Whenever that combination takes place, it's generally the man out of a job that tries to persuade the other fellow to engage him; but our positions are entirely reversed. Here I am begging and imploring you to come and join me. Here you are, perhaps without a dollar in your pocket, and my house is full of soap, the whole four stories; yet I, a soap millionaire—if I could only sell the stuff—am begging you, who likely enough don't know where you are going to sleep to-night, to join me. By the way, that was only a joke, my saying there was no place to sleep in the house—I can offer you a bed to-night, if you want it. Now, this proposal and offer of conditions is due to your manner, for you've got the manner of a millionaire—by George, you have."

"All right," said Austen, rising; "let's see this wonderful soap factory of yours. I think I'll tackle the job."

Hammond was instantly at his side, eager to be off.

"Good boy!" he cried; "you'll never regret it. If we don't clean up this country with Hammond Soap, then my name's lye."

They took a street car to a thoroughfare that had seen better days, and Hammond let himself into a brownstone-fronted house of an imposing character, rather out of keeping with its more shabby neighbors. The moment they entered the hall Austen met a smell of soap calculated to stagger any ordinary man; but Hammond sniffed it with undisguised pleasure, as if it were the air of Araby.

"Here, mother," he shouted, "I've got just the man we want."

An elderly woman, rubbing her hands on her apron, approached from the comparative darkness of the other end of the hall. She was as quiet and composed as her husband was boisterous, but nevertheless it was evident at once to the keen-eyed millionaire that she had absolute faith in the partner of her joys and sorrows and soap-boiling. She greeted the young man very quietly, but with kindly cordiality.

"You mustn't be led away by my husband's enthusiasm," she said. "I am sure he will succeed, but there is much hard work before the goal is reached. My husband thinks every gravel-pit a gold mine."

"So it is," rejoined Hammond confidently. "So it is, if the people want gravel and you advertise. Come along, Sidney, and I'll show you your room."

First, however, he threw open a door leading into what might have been a parlor, but it was full to the ceiling of soap packages. As they mounted higher and higher, Austen saw that each room was packed to the door in a similar manner, and when at last his supposed bedroom was reached, that also was three-quarters filled, leaving only a narrow passage leading to a cot bed.

"The advantage of living here," shouted Hammond genially, waving his hands and striking his knuckles against the wall of packages, "is that you don't need to ring for soap in the morning."

"This room would be all right," murmured Austen dubiously, "but to tell you the truth I have paid for my rooms uptown a month in advance, and if you don't mind I'll sleep there; but I can be here at any hour you set in the morning."

"That's all right," agreed Hammond, "and a very sensible plan is to secure shelter when you have the money. We'll begin in this room when the advertisements come out and clear it up first, then you can stay where you are or here, just as you please." The old lady had followed them up the stair, visibly anxious about the accommodation for her unexpected guest, and her brow cleared when she heard his resolve to reside elsewhere.

"Now," said Austen, noting down the address in his pocketbook, "I have my work cut out for me, so good-by. I'll be back in the evening. Have your advertisement ready before five o'clock."

"Just listen to that, mother!" cried Hammond breezily. "Didn't I tell you? Isn't this just the man we want? You bet he is. 'Get your advertisement ready,' says he. No thought of failure; just like the little girl who came to church to pray for rain and brought her umbrella along. That's the way I like to see a young fellow act. Why, mother, we haven't met a man like this since we left Michigan—have we?"

The millionaire smiled, shook hands with them both and took his departure.

Sidney Austen found his palatial residence on Fifth

Avenue in a state of siege. He had no need to seek the newspaper men—they were all there. Although it was not yet one o'clock the evening papers had long been out, and now the reporters wanted to know all about the alleged Soap Trust. Austen answered quite truthfully that he had not bought an evening paper that day and so was unacquainted with statements therein. He supposed that if it was in an evening paper it was bound to be true, at which the representatives of the morning papers laughing scornfully. But, speaking seriously, he said he was not forming a Soap Trust, although he admitted he was interested in the manufacture and sale of the article to a very limited extent. Soap was a useful blessing, he continued, and anything the newspaper boys could do to encourage its sale he would welcome for other than pecuniary reasons. The reporters laughed at this but wanted to know about the Soap Trust. He assured them against that he was not forming a Trust, either that day, the next day or the day after, but would telephone them if he changed his mind about the matter. He admitted, with seeming reluctance, that another man was endeavoring to form a Soap Trust, and when the reporters clamored for his name he couldn't remember it; that also he would telephone to them if it occurred to him later.

At last, however, he got rid of the reporters quite good-naturedly, talking much but telling little; then he called his secretary and gave him a list of newspapers.

"Jackson," he said, "here is a piece of business which you must accomplish before the banks close, and in which my name is not to appear. Go to the business manager of each of these papers and learn the lowest price, spot cash, for a page advertisement to-morrow, and find out, casually if you can, which is the best firm of advertising agents, and then you will give him this list and ask him to quote terms for the whole lot. The prices you get at the newspaper offices will be your guide. Close the deal and bring me the account before the banks close. I will give you a check which you will cash and pay the currency to the agents, telling them that the copy will be in their hands before six o'clock to-night."

And it was done. Shortly before five o'clock Austen was in Hammond's house once more.

"Is the copy ready?" he asked.

"Ready long ago," cried Hammond. "How many papers did you loot?"

"There's a list," said Austen, placing it before him.

"Great Heavens!" cried Hammond; "do you mean to tell me you have raked in all that lot? My dear boy, you're a Napoleon."

"Let me have the advertisement," said Austen in his customary curt business tone. "I've got a messenger waiting in the hall here."

"I have made only four copies," cried Hammond, aghast at his own lack of enterprise as compared with that of his employee.

"That doesn't matter," said Austen; "one copy is enough. I didn't deal with the newspapers at all but with the biggest firm of advertising agents in the city. They have got more enterprise and will take bigger risks than the newspapers. Then it saves time, dealing with one man in preference to a dozen."

Hammond handed him the sheet of copy and Austen glanced rapidly over it, catching a phrase at the beginning which was shortly to become a slang term throughout the country.

"That's first-rate," he said, then called in the messenger boy and bade him be off full speed.

Hammond sat back in his chair gazing up at his helper with undisguised admiration.

"Now strike me dumb," he said, "but I never once thought of the advertising agents. That was a stroke of genius. Say, Sidney, you're a Napoleon."

On the day the advertisement appeared nothing much happened, but the great pages spread broadcast over the land were certainly the talk of the town. On the second morning, however, the avalanche began, and much as Hammond admired his new assistant before, his admiration now gave place to amazement at the other's power of coping with the situation, for Hammond was almost swamped by the flood of letters; but Sidney remained calm and collected, yet thought of everything a few hours before it occurred to his employer. He rented a vacant house next door and filled it with girls who could write addresses. He set Hammond at a table to open letters and see that none of the silver or stamps went in the wrong direction. His faculty for rapid and efficient organization astounded his chief. When letters began to pour in from the near West, and even from the Pacific Coast, Hammond expressed his amazement at the circulation of the New York papers, but Sidney remarked casually:

"That was a very good ad. of yours, and so I have ordered it into the Chicago and Denver and San Francisco sheets. Wherever the postman calls, that's our territory, you know."

Early in the struggle he asked Mother Hammond for the soap receipt and got it. She, poor woman, overwhelmed, had lit the fire under the kitchen boiler and was manufacturing soap, for the supply in sight was melting like snow on a June day. Hammond was kept so busy that he did not notice the failing stock, and when at last he did he was panic-stricken.

"Oh, don't worry, said Sidney; "there's a factory over in Brooklyn that was closed because of this new combine and I have annexed it. There are thirty expert men at work on mother's receipt across the river and we'll be posting from there next week."

"Oh, you're a wonder," cried Hammond, mopping his perspiring brow. "I'm a fool compared with you. But never mind, my lad, you're going to make money out of this, and we're only at the beginning of it."

Austen threw himself heart and soul into the business, and three weeks passed so quickly that he could hardly realize they were gone. So as to lose no time, he had taken the upper bedroom, when it was empty, and worked in his shirt sleeves night and day almost, perfecting his organization, running the factory and attending to the advertising. One day on a Broklyn Bridge car, when he looked more like a laboring man than a millionaire, he was unexpectedly accosted by one of his colleagues.

"Suffering Moses, Austen, where have you been? We've been telegraphing Philadelphia, Boston and Chicago for you, and all over the country; one or other of us has been sitting on your doorstep for the last ten days. What have you been doing?"

He looked Austen up and down, and, although too polite to comment on his grease-stained clothes, he was evidently dumfounded at his friend's appearance. Austen laughed with more heartiness than the other had ever known him to indulge in.

"Oh," he said, "I've been taking a few days off to learn the intricacies of the soap business. That accounts for the costume. You have to look pretty closely at the cost of production, you know, and so I know a god deal more than I did when I saw you last. Why were you so anxious to find me?"

"Stretton threw up his hand nearly two weeks since."

"Chucked it, eh. Very well; you call a meeting for to-morrow at ten o'clock and I'll be there in a decenter suit of clothes than I've got on at the present moment."

Austen was as good as his word and walked nonchalantly into the directors' room a few minutes before ten, looking much more fit, his friends told him, than when he had been there last.

"Gentlemen," said the chairman, when he had called the meeting to order, "since we were here last another soap man has come very rapidly to the front. I refer to Hammond, whose advertisements you must have seen in the papers. During my enforced leisure I was at pains to learn something of his business, and I regard Hammond as our most dangerous opponent if left outside of our combination. I therefore propose that we offer Mr. Hammond two hundred thousand dollars for his business. Are you agreed?"

Stretton was silent, but all the rest signified their approval. They had had their lesson and would throw no more obstacles in the way of this cocksure young man.

Austen then directed the secretary to write the letter making this offer to Hammond, and signed it before leaving the room.

Austen had told Hammond that he should require a day or two off, as he felt somewhat fagged by the strain of the previous weeks, and Hammond had cheerfully assented. Nevertheless, Austen called at the brownstone front the day following the meeting. Hammond, with a shriek of delight on seeing him, fairly embraced the young man, much to his confusion, for such a demonstration was contrary to the custom of the country.

"Sidney, my boy," he shouted, "we've *got* 'em."

"Oh," said Austen nonchalantly, "the advertisements are panning out still, are they?"

"I'm not talking of the advertisement. You won't believe it, but I've been offered—I can show you the proof right here and now—Austen, the big millionaire, has offered me two hundred thousand dollars for the factory. Two hundred thousand—think of that."

"Well, I'd take it," said Sidney quietly.

"Take it, why of course I'll take it; but what I want to say is, that a hundred thousand of this belongs to you. Yes, sir; we share-and-share alike."

"Nonsense," said Austen with a smile.

"There's no nonsense about it. You're entitled to it and you're going to get it; and what's more, I'm going right up to Austen and tell him that part of the bargain is that he's to give you the best position he's got in the Trust, next to himself."

"Nonsense," again ejaculated Austen. "You just take his offer, collar the money and give the hundred thousand dollars you don't seem to want to mother here, then get back to Michigan and be happy. I'll look after myself."

"Of course you can do that, but I'll not accept this offer unless Austen promises to do the square thing by you. It's part of the bargain. Why, where should I have been if it hadn't been for you? I'd have been snowed under; yes, sir; I'd have been smothered by the efforts of the United States mail. I'm going straight to Austen—I'm entitled to see him; there's his letter and there's his signature—and I'm going to talk Mr. Sidney to him to beat the band."

"All right," said his late employee with a sigh, "don't trouble to go to the bank to see him, but talk to him here and now. I'm Sidney Austen, if you want to know, and this season of soap making has done me any amount of good, besides the pleasure of making the acquaintance of you and mother."

Manufacture of Soaps.

ENGLISH PATENT No. 3973, 1903.

Carl Dreymann, Chemist, No. 2 Via Madama Christina, Turin, Italy.

For the purpose of manufacturing a light, hard soap, free from smell, it has been the practice to first purify all the raw materials, such as tallow, fats, oils, etc., then

to saponify with a caustic soda solution, to separate the resulting saponified matters from the spent lye, or to "extra" or "clear boil" for the purpose of "making" the soap. Where fats poor in stearine are employed, or where rosin is added, soaps made in this manner are too soft; if, however, more salt is employed in the separation process in order to increase the degree of hardness, the impurities and rosin-residue of the boiling make their appearance in the soap. The result is discoloring through undue darkness, in addition to impurity; and as a rule the desired degree of hardness is still not attained; the texture of the soap becomes loosened by reason of the brine adhering to the flakes of soap, so that the consistency as a whole wants the necessary firmness.

My invention relates to the fabrication of firm, light colored, curd soaps from cheap and even bad smelling fats and oils, with the addition of even a very large percentage of rosin, without, however, the resulting soap in any way possessing the sticky character usually attaching to the use of much rosin.

According to my invention the raw materials are saponified and all impurities which impart a dark color and a foul smell—where rosin is used, resinotannolic compounds and protacatechuic acid—are removed during the process of separation. The said separating process consists in treating, *i. e.*, washing, the boiled raw soap containing all the impurities, with a soap solution of 3 to 20 per cent. of soap. By continuously stirring the raw soap in the washing liquid, the said impurities are caused to fall to the bottom. In this manner every kind of impurity will be removed in a much more thorough and complete manner than has hitherto been possible and all foul odors dispelled, the labor involved, on the other hand, being very small.

From the soft mass of soap so obtained, it is necessary to remove an amount of the water contained. For this purpose the soap is boiled with brine of 9 to 20° Bé according to the special kind of soap. This brine must be highly concentrated in order to be able to extract from the soap a considerable amount of water contained therein so that the resulting soap will be poor in water and hence be reduced in weight so as to yield about 145 to 148 per cent. at the most, *i. e.*, no more than 145 to 148 parts of soap shall be obtained from 100 parts of fat originally used.

This process of concentration results in a soap containing but little water, but owing to the brine adhering, the consistency is loose, and the soap soft and moist.

To this imperfect soap, therefore, 2—3 per cent. of a weak solution of salt is added by being intimately mingled with it in a separate copper. The salt solution may be of 2 to 10° Bé in accordance with the concentration of the soap, *i. e.*, the more the latter is concentrated the weaker must the salt solution be. This small percentage of saline solution/: by forming a mixture of pasty soap and basic fatty acid soda, which mixture envelopes the particles of soap:/ causes a contraction of the whole soapy mass to a firm, cohesive substance. Instead of this saline solution, a mixture of different salts such as sulphate of sodium, chloride of potassium, sulphate of potassium, silicate of sodium or potassium, etc., or a soapy solution may be employed. The yield will thus have been increased by this addition of 2—3 per cent. and the final product constitutes or is a homogenous, firm curd soap, dry to the touch, which has the appearance of best "extra boiled" soap, is of light color, and retains nothing of the stickiness of the rosin.

In order to procure a soap of the above nature, the whole of the three processes just disclosed must be carried out in the succession stated, that is to say:—

1./ Saponification of the fats and rosin and removal of the impurities.

2./ Concentration of the purified mass.

3./ Contraction of the loose particles of soap to from a uniformly firm soap.

One or two of these processes alone, only result in a partly perfect soap.

Even though one or other of the above separate processes may be already known, it is a fact that so far no one has yet succeeded, either from cheap greasy raw materials alone, or with the addition of 20 per cent.—to say nothing of 60 per cent.—of rosin, in producing a fine curd soap, containing but little water, light in color, pure in character, and free from all stickiness. That is only possible when the three above-mentioned processes are employed in the succession disclosed. The process as a whole employed for one and the same soap is absolutely new, and as such, and in the succession of steps described, has nowhere been carried into practice. In consequence, moreover, of the use of cheap raw materials, such as hitherto have had to be avoided, the soap, though having a fine appearance, and possessing equally high value for washing purposes, a small percentage of water and a high percentage of fatty and resinous acids, yet is essentially cheaper than the fine soaps now in use, made from expensive fats, and containing much water, from this standpoint also, therefore, the new process represents essential progress in soap manufacture.

According to my new process all those soaps may be manufactured which in addition to a high degree of purity are required to contain but little water. My process can be used wherever a light, odorless, firm hard soap has to be made from dark, inferior, soft fats and oils, even such as emit a bad smell, and where in addition a large amount of rosin has to be used. A soap containing even 60 per cent. of rosin, manufactured according to this invention, is light-colored and firm, and possesses nothing of the stickiness peculiar to rosin soaps.

Should it be desired to make a soap containing still less water, and of still harder nature, whilst being of

the same uniform consistency, firm and dry, and having the appearance of a fine clear-boiled soap, the following procedure may be adopted.

As above described, the purified soapy mass, steamed in brine, and, owing to the latter adhering to the flakes, of loose character, is caused to contract in a separate copper by the addition of a diluted solution of salt or soap. By this process, however, the soap can only be made free from water up to a certain degree, depending upon the charatcer of the fat employed.

In order, now, to manufatcure a still harder soap, containing still less water than before, use is made of the property of cocoanut-oil soaps of absorbing salt in large quantities, without the soap losing in firmness.

The soap separated by brine, after settling, is deprived of the spent lye, and mixed with a fine extra-boiled [and therefore rich in water] soap, containing cocoanut oil or similar oils to the extent of about half its weight. The amount of cocoanut-soap to be addel to the resinous soap may vary from 5 to 50 per cent. of the latter, just depending upon the special properties and the proportion of the raw materials used, and degree of concentration of the soap mass and the desired quality of the final product. The cocoanut oil soap absorbs the brine adhering in the strongly salted soap and forms a pasty soap containing basic fatty-acid soda. This mixture of pasty soap and basic fatty-acid soda envelopes the remaining particles of soap, and thus forms a uniform fine curd soap having the appearance of a fine extra-boiled-soap, but having the advantage of containing less water and therefore being harder and of greater value.

In using dark and dirty fats, especially with rosin, it is natural to saponify these with the cocoanut oils, so that during the subsequent extra-boiling, the impurities come into the paste, and the extra-boiled soap employed for contracting the separated soapy mass, poor in water, is freed from the sticky and discoloring constituents of the rosin.

Should the concentration of the soapy mass by means of brine fail to yield a soap containing a sufficiently small quantity of water, the water may be further removed by subsequent evaporation.

For the purpose of increasing the capability of cocoanut-oil soaps to absorb water, the saline solution employed for concentrating the soapy mass may have another salt such as sulphate of soda added to it, in the proportion of 5 to 50 *per cent.* As is well known, every salt soluble in water is to a considerable extent soluble in the saturated solution of another salt. Thus a soap extra-boiled with sodium chloride enters into intimate mixture with a soap separated by means of sodium chloride and sulphate of soda, which mixture is then considerably harder than when sodium chloride alone is used.

On The Cleansing Power of Soap.

BY H. W. HILLYER.

(Reprinted from the Journal of the American Chemical Society.)

(*Continued.*)

It would seem that this low surface-tension of soap solutions must be a prime factor in their emulsifying power. Viscosity can have very little to do with it, for solutions containing about 1 per cent. of sodium oleate are excellent emulsifying agents but have a viscosity so low that careful measurements would be necessary to show that they are more viscous than water. Using the same reasoning as in the case of bubbles and foam, we may say that when two oil drops approach each other in water, they tend to coalesce and finally do so because the great surface-tension of the drops easily withdraws the mobile water from between them till they touch and coalesce. But when the drops are in soap solution, the surface-tension is so very much less that it is not able to withdraw the solution rapidly from between the drops, and they are kept separate. If the soap solution is notably viscous, the slight surface-tension will have still greater difficulty in thinning the films to the point of rupture. A mass of droplets separated by films of a low surface-tension and notable viscosity will be a permanent emulsion.

Quantitative relations between the surface-tensions of certain solutions are given in the following table. The measurements are only approximate, but, for the purpose, adequate. The first column (K) indicates the number of drops formed when 5.35 cc. of the solutions named flow into a certain kerosene. The second column (Emul. K) indicates by a plus sign, that the solution, when shaken with kerosene, will yield an emulsion. The third and fourth columns, C.S. oil and Emul. oil, give similar data for cottonseed-oil carefully purified from free acid by washing with dilute alkali.

	K	Emul. K.	C.S. oil.	Emul. O
Water	17	—	9	—
Stale beer	39	little	..	—
Sweet skimmed milk	..	..	52	+
Saponin	..	..	13	+
Acacia	..	..	14	+
Alcohol and sodium hydroxide	51	little	..	..
N/640 sodium oleate	26	little	..	..
N/10 sodium oleate	296	+	167	+
N/10 rosin soap	310	+	180	+
N/10 sodium chloride	17	—	..	..
N/10 sodium hydroxide	17	—	10	—
Sodium silicate	..	..	15	—

From these data, it will be seen that the solutions which emulsify have a larger number of drops, that is, "a smaller surface-tension than those that do not."

Saponin solution containing 1 part of the glucoside to 200 of water is an excellent emulsifying agent, and yet its surface-tension toward oil is not enormously reduced from that of water, but its emulsifying power is easily understood when one observes the form of the drops

produced when it flows through cottonseed-oil. Quincke has observed similar drops when albumen solution flows through oil. We may make a *soap* solution, one containing 1 part of sodium oleate in about 500 parts of water, which, when it flows through oil, will give the same number of drops as the saponin solution used. The drops of soap solution form normally, and, as they fall, assume quickly a spheroidal shape, while the hanging drop quickly takes the form of a catenoid. A drop of saponin solution (Fig. 1) as it is detached takes the form of a Rupert drop (*a*) and, falling to the bottom, takes the form of a pear (*b*) with the stem plainly visible. This

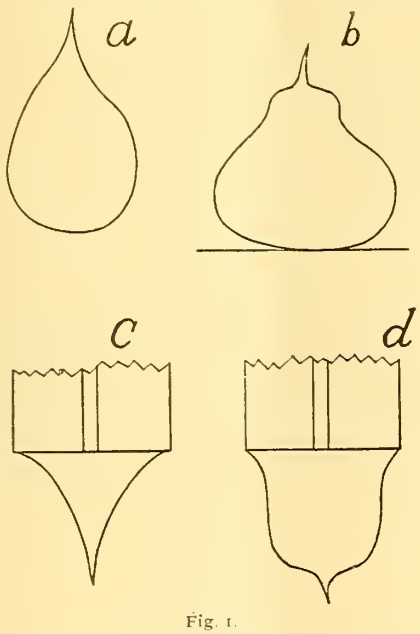


Fig. 1.

stem, the remains of the filament drawn out as the drop was detached, may remain visible for many minutes. The hanging drop, if the flow of solution is stopped just after the fall of the drop, has the shape of an inverted cone, with incurved sides and a slender peak (*c*). This shape is retained a long time. When new liquid flows in, the hanging drop changes its shape only as its surface is swelled out by the inflowing liquid (*d*). That the liquid is not in itself viscous may be known by observing the ready rotations and other movements of chance particles within the drop as the liquid flows down.

Here we plainly have a new instance of superficial viscosity, a viscosity which makes motion difficult in the surface between the two liquids. This it would seem, being of so considerable a degree, may account for the resistance offered to the withdrawal of the films of saponin from between the oil droplets of a saponin oil emulsion, and consequently for the permanence of the emulsion.

The conclusion arrived at is that emulsification is due largely to the small surface-tension between oil and the emulsifying agent which allows the emulsifying agent to be spread out into thin films, separating the oil droplets. The surface-tension is not strong enough to withdraw the film from between the droplets except slowly and, if the emulsifying agent has great internal viscosity, or if great superficial viscosity is shown between the liquids, the thinning of the film becomes so slow that the emulsion is permanent.

EFFECT OF FREE ALKALI AND OF FREE ACID.

As indicated in the tables last given, decinormal sodium hydroxid solution does not show any greater number of drops than water when it flows through kerosene, and only a slight, and in this connection insignificant, increase in the case of cottonseed-oil. Since alkali does not emulsify either of these oils, we may conclude that diminution of surface-tension and emulsifying power go together, and that neither of them is caused by alkali alone. Solutions of alkali less concentrated than decinormal also show the same surface-tension and fail to give emulsions. A decinormal solution of sodium oleate will give some twenty times as many drops as a decinormal alkali. The number of drops formed by the oleate is not increased by adding excess of alkali to either concentrated or dilute solutions of oleate. On the other hand, when free oleic acid in excess is added in increasing amounts to a decinormal solution of sodium oleate, the number of drops and consequent emulsifying power are decreased as shown by the data and curve below. Mixtures were made containing 100 cc. oleate and amounts of free oleic acid varying from an amount sufficient form the acid salt $C_{18}H_{34}O_2Na : C_{18}H_{34}O_3$ down to 1/128 of that amount, and the number of drops which each made was determined.

DECINORMAL SODIUM OLEATE AND OLEIC ACID.

Equivalents of oleic acid in excess	0.	1/128.	1/64.	1/32.	1/16.	1/8.	1/4.	1/2.	1.
No. drops . . .	274	273	270	240	216	164	117	84	58

From these facts we may conclude that the low surface-tension and the emulsifying power are due not to the alkali or to the acid salt set free by the hydrolysis but to the *undecomposed soap itself*.

We have seen before that another possible factor in cleansing, namely, the power soap solutions have of wetting oily substances is due to the soap itself. But this wetting power may be explained also by the strong adhesion of the soap to the oil and low cohesion of the soap itself. The latter will more easily be spread out

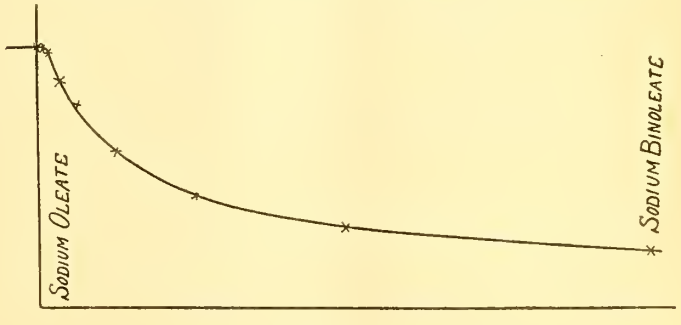


Fig. 2.

over the surface, if its cohesion is small and a stronger force will be acting to spread it out, if it is strongly attracted to the oily surface.

A very similar factor in cleansing is that which may be called ease of penetration, by which aqueous solution pushes into and permeates the interstices of the fabric. If a glass tube of 3 or 4 mm. internal diameter and closed at one end is filled with cottonseed-oil and immersed in a vessel of water (Fig. 3, *a*), the oil will not not leave the tube, being held there by the strong surface-tension film between the oil and water. But if a strong solution of soap is poured in, the surface-tension film is diminished in strength, the oil flows from the tube, and the soap solution penetrates into it. (Fig. 3, *b*.) Here the soap, on account of its weak cohesion and its strong adhesion to the oil, withdraws the oil and penetrates into the oily tube. In the same way, it may be, the soap penetrates into the capillary interstices of the fabric to be cleansed.

Even the lubricating power of soap solutions may be explained by considering the factors a low cohesion and a strong adhesion. In treatises on mechanical engineering, the chief physical property mentioned as desirable in a lubricant is that it shall have sufficient "body" or viscosity to prevent its being pressed out from between the surfaces to be lubricated. While viscosity is for this particular object no doubt a necessary thing, it would seem to be a necessary evil. As the term is used in physics, viscosity is a property of fluids which

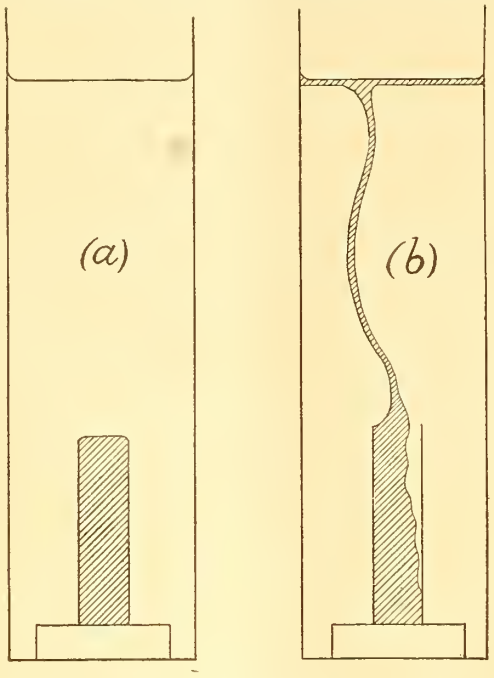


Fig. 3.

prevents the freedom of motion which their particles would have if the fluid had no viscosity, or a less viscosity. But in speaking of lubricants mechanical engineers demand, in a substance intended to promote motion, a property which physically hinders motion. If we consider as lubricants graphite or steatite or soap, or the clay on which our shoes slip in the street, we may get a clearer notion of lubrication. In these cases, at least, the lubrication is due to the fact that the lubricant adheres in a film to the surfaces to be lubricated but does not cohere to itself. In the use of oil as a lubricant, it is also true that the oil adheres to the lubricated surfaces and soon forms two layers of oil which glide over one another. We have then strong adhesion on the part of lubricant and a weak cohesion. The same is true of soap solutions and will explain their slipperiness and lubricating power. The slipperiness we feel when alkali is used on the hands is probably due to its action on the skin or on the material which keeps in place the epithelial cells. The actual removal of these cells with the impurities attached to them and covered by them would account for the cleansing action of alkali and alkali carbonate on the skin.

The position here taken is then: that the cleansing power of soap is largely or entirly to be explained by the power which it has of emulsifying oily substances; of wetting and penetrating into oily textures; and of lubricating texture and impurities so that they may be removed easily. It is thought that all of these properties may be explained by taking into account the low cohesion of the soap solutions and their strong attraction, adhesion or affinity to oily matter, which together cause the low surface-tension between soap solution and oil.

Shoe Soap.

On the subject of shoe soap mentioned last month we find the following in an exchange:

Shoe soap is the new thing in soaps. It brings old shoes back to life. The new article is being made in Philadelphia. This shoe soap will, it is claimed, restore old leather and enhance the finish of new stock. This soap comes in round cakes. For use a cake is placed in a metal cup in order to receive the water. Then a stiff brush is rubbed upon it and the brush is then applied to the shoe. For the first application to a shoe more of the soap is needed than for subsequent applications, unless, of course, the shoe gets muddy. The shoe is rubbed with the brush and then with a cloth, giving it a high degree of polish.

Once applied properly, it is claimed for the polish that it remains for days and can be easily brightened up with a simple application of a cloth or a dampened brush. It is claimed that it gives a finish of new until the shoe is worn out, that it is a perfect finish for patent leather and glazed kid, that it gives a life to the shoe upper far beyond the usual. Moreover no harm is said to come to the shoe, but rather that it is left to a healthier condition by the use of the shoe soap. No coating is left on the leather to come off when it is damp or wet.

PATENTS AND TRADE-MARKS.

The following list of recent Patents and Trade-Marks is reported by W. G. HENDERSON, Solicitor of American and Foreign Patents and Trade-Marks, Norris Bldg,, Washington, D. C. A copy of any of the following will be furnished by him for 15 cents.

PATENTS.

No. 735,304. Soap-molding machine. Karl Schnetzer, Aussig, Austria,Hungary.

No. 735,758. Straching-machine. Henry Grunhagen, St. Paul, Minn.

No. 735,801. Washboard. Jacob Opp, Dansville, N. Y.

No. 736,274. Drying apparatus for laundries. John Lingo, Philadelphia, Pa.

TRADE-MARKS.

No. 40,823. Washing compaunds. James Pyle & Sons, New York, N. Y. The word "Perlina."

No. 40833. Washing-machine. Benbow-Brammer Manufacturing Company, St. Louis, Mo. The letters "B. B."

LABELS.

No. 10,240. Title: "Howard's Hygienic Healing Flesh Soap." (For soap.) Joshua E. Howard, New York, N. Y.

AROUND THE SOAP FACTORIES.

News-itemssent us by our readers will find prompt attention in this column

I. B. Blake, Port Monmouth, N. J., is erecting an addition to soap factory.

The Brantford (Ont.) Soap Works has passed into new hands.

The Prouty-Bowler Soap Co. is erecting a new two-story brick building, 32x132 feet, in East Des Moines, Iowa, for manufacturing and warehouse purposes.

The Glorio Manufacturing Company has been incorporated at Salt Lake City, Utah, for the purpose of manufacturing scouring soaps, Fuller's earth, talc, etc. Its capitalization is $10,000, divided into 100 shares of the par value of $100 each. The offieers are: Oliver G. Snow, president; Ashahel T. Smith, viee-president, and Alphonso H. Snow, secretary and treasurer.

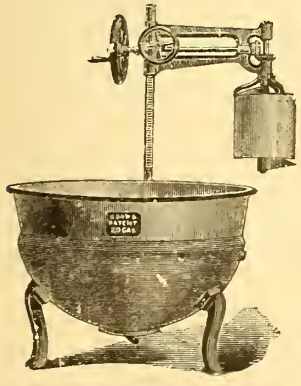
The Schultz Soap Works at Zanesville, Ohio, has passed into the hands of the Procter & Gamble Co. On the authority of Mr. Hoge it is stated that Star soap will be continued to be manufactured in the Zanesville factory, and that several members of the old firm will remain in eharge of the works. This faetory is reputed to have been the first "hard" soap factory west of the Alleghenies, and was bought by William Schultz in the early thirties, from the founder, Nathaniel Wilson.

A project is on foot to cultivate roses in Alabama and to establish a rose oil and rose water industry near Mobile.

The St. Croix Soap Co. at St. Stephen, N. B., is increasing and improving its glycerine recovery plant.

Fire last month destroyed the works of the General Chemical Co. at Camden, N. J., eausing a large loss.

Owing to a misunderstanding of directions, the advertisement of the H. W. Dopp Co. of Buffalo, was omitted from our last issue. This was eontrary to the firm's intentions and we gladly call attention to the re-appearance of the adv. (in a new dress) on another page. This firm has entirely reorganized the making of the Dopp machinery, weeding out some of the older goods and replacing them with more up-to-date apparatus, though retaining those features which have given their machinery a wide and favorable reputation. They tell us that they are having a considerable number of crutchers going through the works, all on order, one order for seven of these machines being received from one single firm alone. The firm has purchased the land and buildings formerly occupied by the old concern, having now 20,000 feet of floor-space, and doing a greatly increased busi-



This shows one of many mixers applied to

Dopp Seamless Steam Jacket Kettles.

We have a large variety of stock patterns, and can surely suit your particular case.

H. W. DOPP CO., 1300-1310 Niagara St., **BUFFALO, N. Y.**

ness. All machinery is tested before leaving the factory. The company takes contracts for setting up entire equipments in cases where customers buy steam-jacketed mixers, that is to say, they furnish line shafting, pulleys and general lay-out of the plant.

The Lockwood Soap Co., Kansas City, Mo., has filed papers asking permission to increase its capital stock from $15,000 to $25,000.

Hartford, Conn., Aug. 17.—The Fairchild & Shelton Company of Bridgeport has filed a certificate of incorporation. It is capitalized at $200,000 and its purpose is to manufacture soap, starch, washing powders, glycerine and similar articles.

Plans have been filed in the bureau of building by the Larkin Soap Company which provide for another addition to the immense plant of the company. The new structure will be an eight-story building and will be erected at an estimated cost of $109,000.

The Rome Soap Company has been incorporated with the secretary of state, with a capital of $150,000. The place of business is Rome, N. Y., and the incorporators are Frank W. Brown, Sr., Frank W. Brown, Jr. and George H. Brown of Rome and Lorenzo O. Bucklin of Little Falls. The directors for the first year are Frank W. Brown, Sr., George H. Brown, L. O. Bucklin, Samuel Briggs of Jamestown and Frederick Teall of Lockport, N. Y.

The Iowa Soap Co. of Burlington, Iowa, has added extensive additions to the machinery of its plant. The *Hawkeye*, commenting on it, says: Fred Ihrer, who recently became a member of the firm, is carrying his characteristic progressiveness into the work of extending the already large business of the company, and with the experience and push of Messrs. Barr and the Alexander Bros. behind him to hold things level, the factory under their combined management is bound to spread the name and fame of the old Orchard City throughout the length and breadth of the republic.

The Mineral Soap Co., of Latona, Seattle, Wash., has put its first product on the market. It's factory was built as long as two years ago, by the Columbia Star Mfg. Co., which discontinued operations, however, almost as soon as begun, for lack of funds. The present management is in the hands of H. J. Rosenberger as president, and J. H. Coates, treasurer and secretary. A mineral found in Oregon is one of the ingredients of their soap.

Additions to Our Brand List.

Cream Naphtha 343

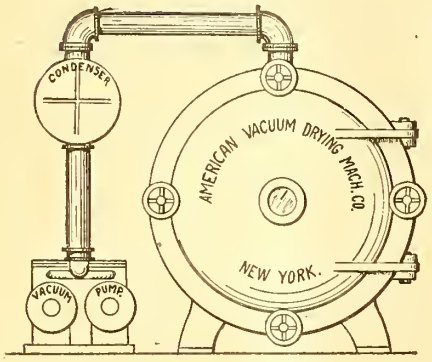
VACUUM DRYING APPARATUS

Built in Sizes and Styles to Suit Requirements.

Most rapid drying: It accomplishes in a few hours, where many days and weeks are required in ordinary drying rooms.

Saving in fuel: Exhaust steam or hot water may be used for heating, since the drying in vacuo can be done at as low a temperature as 53° F.

The consumption of steam is only 1¼ pounds for each pound of water evaporated from the material, and this includes the steam necessary for operating the vacuum pump, provided the exhaust steam from the pump is utilized.



No other process of drying is so economical, and saves so much time and space.

AMERICAN VACUUM DRYING MACHINE CO.

N. Y. Office:
120 Liberty Street.

Suitable for the seasoning and the drying of Soap, etc.

SUPPLEMENTARY LIST

OF THE

BRANDS OF SOAP MANUFACTURED IN THE UNITED STATES

Including also the Brands of Foreign Manufacture Registered as Trade-Marks in this Country.

NOTE: This list is compiled with the greatest possible care, but the publisher does not assume any responsibility other than to correct and to complete the list according to data obtained from official sources or furnished by the trade. Brands registered in the patent office as trade-marks or labels are given with the name of the party registering same. Brands or names marked * are those which were found to be used by more than one firm or the owner of which could not be ascertained. ☞ SEE THAT ALL YOUR BRANDS ARE ENTERED IN YOUR NAME.

3—Liberty Mfg. Co., Chicago.
344 Home Soap Co., N.Y.
345 Columbia Ref'g. & M'f'g Co. Ltd , New Orleans.

Abrado, Floridine Mfg. Co., New York.
A Happy Home 4
Alabama Tar 3
All-need it 286
Amazon Coco 337
Amber Rose 346
Anchor Castile 3
Angelus 54
Antelope 3
Antillia 2
Anty Up 340
Apple Blossom 337
Atoka 346

Baby Mine 8
Baunock 3
Beauty Belle 151
Beaumont's Shaving 346
Beef Oil 340
Bell's Brown 343
Bell's Naphtha 343
Ben Hur 3
Bicycle 3
Big Glycerine 3
Billy-Goat 340
Blossom Bouquet 3
Blue Chip 340
Blue C oud 2
Blue Coco 340
Blue Family 340
Blue Monday 340
Blue Olive 340
Boast 3
Botica Francisca 3
Bouquet Chic 3
Bouquet Reverie 3
Brazilian Bath 3
Bunny—Hewitt Bros. Soap Co. Dayton, Ohio.

Calcutta Castile 337
Calumet 3
Camille 3
Ceske Slovonsky 3
Ceske Polski 3
Chlorine 340
Cleaneasy 286
Climax Chip 54
Cloth Pin 340
Cloths Pin 340
Coa Nut 346
Coca Foam 3
Columbia 3
Couto & Elroy Castile 3
Credential Shaving Stick 16
Crown Princess 337
Crystal Honey 346
Crystal Sulphur 3
Crystal Palace 3
Crystal Transparent Tar 3
" " Carbolic 3
Cuban Rose 3
Cuta Alba 3
Cultoderma Medicated 3
Cycle 3

Dactylis 11
Dermicura 327
Diadem 3
Druggist's Transparent 3
Dr. Allens Medicated 3
Durango Best, Durango (Colo.) Soap Co.

Elk's Bouquet 346
Empress Eugenie 115
Empire Geranium 337
Eucryl Eucryl Ltd., Hull, England.
Eureka 3
Evergreen 286
Expert 286

Facine 340
Fairbank's Primrose 2
" Scouring 2
" German Fam. 2
" Glycerine-Tar 2
" Mottled Germ'n
" Olive 2
" Navy Blue 2
Federal Family 1
Floral Feast 115
Flannel 2
Flip 345
Force, Cincinnati Soap Co., Cincinnati, Ohio.
Fragrant Honey 2
French Violette 3
Frog 340

Gem Wash, Compound, Clara Pearce, Philadelphia.
Georgia Oleine 29
Geronne Violette 3
Geyser 343
Giant 3
Gloriola 29
Glycerated Tar 346
Glycerderma 3
Golden Rose 3
Gold Seal Soap Flour 340
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The Latest Complete Edition of Our

List of Soap Brands

was published on Jan. 1st, 1902. All new brands and changes that have been reported since that date are contained in the "Supplementary List" published on another page of this paper.

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POSITION WANTED.

A graduated chemist and experienced soap maker wishes to make a change; I understand also perfumery and oil refining. One-horse concerns need not answer. Address: S. T. care of American Soap Journal, Milwaukee, Wis.

Position Wanted by an up-to-date soap maker. Makes all kinds of laundry and milled toilet soaps, floating soap, chips, boiled or on the cold process. Can also handle cottonseed foots or soap stock with best results obtainable. 20 years experience. Best of references. Address: O. P. care American Soap Journal, Milwaukee, Wis.

Position Wanted: A Soap maker of 30 years experience in all kinds of laundry and toilet soaps, refining cottonseed oils and fats, and all kinds of chemical work pertaining thereto; best, lightest and cheapest soap made from cotton seed oil foots, is open for engagement October 1st. A-No. 1 references from largest firms in the country. Address: R. S., care of American Soap Journal, Milwaukee, Wis.

Position Wanted: By a thoroughly competent Soap and Oil Chemist. One who is familiar with modern methods and management. Cotton foots soaps and high grade toilets made with a good margin of profit. Have had 20 years experience in making all kinds of toilet and laundry soaps. Have a well equipped laboratory of my own and would like to make a change from present position Address: M. N. T. care of American Soap Journal, Milwaukee, Wis.

Position Wanted: A soapmaker of experience and now in responsible position, desires to make a change. Thorough, practical knowledge of chemistry and glycerine recovery. Address: N. L., care of American Soap Journal, Milwaukee, Wis.

Chemical and *Electro-chemical Engineer* is open for engagement in the near future. The same is a graduate of one of Europe's best technical colleges and has had several years' factory experience in erectiug and starting processes, as well as conducting analytical and research laboratory. Well acquaintcd with foreign languages and office work. Address: "ELECTRO" care of American Soap Journal, Milwaukee, Wis.

SOAP-MAKER WANTED.

Soapmaker Wanted: Who is thoroughly familiar with making textile soaps for woolen mill purposes; would prefer man who is chemist. Write, stating salary wanted and experience. All correspondence treated confidentially. Address, TEXTILE SOAP, care American Soap Journal, Milwaukee, Wis.

FOR SALE.

For Sale: One large continuous Screw Plodder, one set soap Cutting Machines complete, and one Boomer & Boschert Oil Press, used very little and all in very good condition. Cheap for Cash. Address: V. W. care of American Soap Journal, Milwaukee, Wis.

For Sale: Glass moulds (and iron moulds to make them) for moulding cheap toilet soaps. For particulars address: U. S. G., care American Soap Journal, Milwaukee, Wis.

For Sale: Soap Factory and business built and established two years ago in most progressive city in the south. The only soap factory in the state. Best of markets; raw materials at lowest figures, owing to locality and water freight rates. Labor fifty cents per day; fuel $1.25 per cord, delivered; rosin 20c to 30c per bbl. under New York quotations, Tallow, exclusive field of supply. Business well established with wholesalers exclusively, also Steam Laundries, Railroads and Steamer Lines. Thousands of dollars spent in advertising. Present owners not practical soap people. Will sell out or put in twenty or thirty thousand more capital with right people who will themselves invest same amount. This is not a gold brick advertisement; we mean business with experienced soap people who can investigate and demonstrate for themselves that we offer an A. 1 investment for reasons stated. We have offer from one concern to amalgamate with them, but prefer to owu individual business or sell out. Address: "A. 1," care American Soap Journal, Milwaukee, Wis.

For Sale. A Dopp Press No. 1; has never been used. Address: "CHALLENGE," care of American Soap Journal, Milwaukee, Wis.

For Sale: A modern soap factory with best facilities for manufacturing on an economical basis, located in a fine city in the middle west, that can not be excelled for market of product, or getting raw material, also best social and educational facilities. Owner wants to retire on account of failing health; will sell on good terms, or with the right party may retain an interest in same. This is an opportunity to secure a bargaiu iu a money making business. Address: "E. B. J." care of American Soap Journal and Mfg. Chemist.

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A MONTHLY JOURNAL OF THE MANUFACTURING CHEMICAL INDUSTRIES.

DR. HENRY GATHMANN, PUBLISHER.
2707 North Ave , Milwaukee.

MILWAUKEE, WIS., October 1, 1903.

VOL. XIV. No. 2.

THE

AMERICAN SOAP JOURNAL

AND

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Communications on industrial subjects, news items, and any information suitable for printing in these columns, are solicited and will have due attention.

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Address all communications to

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MILWAUKEE, WIS., U. S. A.

We are asked for the name of a manufacturer of soap sheets (paper coated with soap). If any reader makes, or knows who makes, such sheets, he will confer a favor by giving us the required name and address.

Manufacturers of shaving soap will be interested in a newly patented shaving mug, having a water reservoir at the bottom, and a spring-supported, perforated diaphragm for the soap above the water level. By pressure with the brush the soap is momentarily depressed into the water and emerges slightly moistened, ready to be made into a lather. The invention is described as "a never-wasting soap cup," and a special claim made for it is that the excess of water being promptly drained off, "the mug is kept in a tidy condition."

Shaving soap and razors have been used for ages to "keep the mug in a tidy condition," and for our own part we should prefer to get along without a perforated diaphragm. Still, as we may not fully appreciate the importance of this new invention, we thought it only right to mention it anyway.

Another invention recently patented is that of a new soap and dye combined, whereby clothes can be simply washed with the soap and become dyed simultaneously. The idea, we are sure, is by no means new, although the particular combination of materials used in the soap now patented, may possibly be so. What attracted our attention is that the patent was granted to three men, J. A. Bell of Knoxville, Tenn., (a soap manufacturer of practical experience), Geo Rowland (a dyer), and Geo. Murdock(a photographer). Between three such men a really good invention of the kind might result.

The statement is made in Knoxville papers that even now the Armour Soap Co., the Procter & Gamble Co., and the Standard Oil Co. are rivalling for the possession of the patent, but that the owners of the patent prefer to organize their own company. We hope they have made a good invention and will profit by it, but the form in which the news reaches us looks suspiciously like the reports sent out by oil well promoters and mining companies, when they offer stock at ten cents a share, which is absolutely certain to be worth 25 cents in two weeks and will jump to a dollar when the well or mine gets a-going, but—the well or mine is gone before it gets a-going.

A restaurant man of Logansport, Ind., in order to attract customers, hands to every guest, on paying for his meals, a parting gift in the shape of a cake of toilet soap. Anyone eating three meals a day at this restaurant will find himself long on toilet soap shortly, and we would suggest that a tooth soap would be a welcome change (if only to take away the taste of the meal).

A square meal and a cake of soap may not at first thought be considered very appropriate to each other, likely enough the soap in the case just mentioned is "made of the best edible fats and oils," and "contains no alkali," so that, after all, it is probably "good enough to eat" and may serve as a late lunch when the restaurant is closed for the night.

If the people of a century ago could see us get a meal ticket with every box of soap, and a cake of soap with every meal, they would not marvel at any other of our modern achievements.

On the occasion of the sale of Schulz & Co.'s soap works, at Zanesville, Ohio, which we mentioned last month, the news gatherers of Zanesville naturally brought out many little details of interest. The foremost fact stands out that the plant is to be taken down and the machinery moved to Cincinnati. The purchase price is given as $846,000. The business was established thirty years ago by the late R. D. Schultz, and was extremely successful all along. John Hoge, the principal owner in late years, and also interested largely in almost every other prominent business in Zanesville, is accounted the wealthiest citizen of that place, his fortune being estimated at between three and four million dollars; it is said that he will soon remove to live in New York City.

In direct contradiction of the majority of the newspaper reports, the Zanesville *Recorder* claims that the machinery of the factory is mostly worn out and antiquated, that the loss of the works is not a great matter to the city, and that it will throw out of employment not over 150 people, many of whom would soon have been replaced by a wrapping machine anyway. It deplores, however, the loss of the advertising which Star Soap has given to Zanesville.

The retail druggists had a convention last month, and Wm. Janvier, representing Pears Soap in this country, took advantage of the occasion to meet many of his customers. Going up to one of them (so the Pharmaceutical Era relates) he put on his most cheerful smile and extending his hands, said, "Good morning——" when quick as a wink the other said: "Yes, I have!"

The British & Colonial Druggist tells of a druggist in London who exhibits in his window a ledger of his firm, dated back to 1828, and opened at a page which shows that, in the days from May 19th to July 2d of that year the store supplied George IV. with toilet soap and perfumes to the amount of well over $1,000.

If "His Majesty, the American Citizen," would equal such a record, what a time we all would have.

A Study of Soap Solutions.

BY H. W. HILLYER.

(Reprinted from The Journal of the American Chemical Society.)

It was noted in the preceding article that while toward air the surface-tensions of soap solutions vary but little as the concentration is changed, the surface-tension between soap solutions and oils is rapidly diminished as the concentration is increased. To ascertain the law connecting concentration and surface-tension, the following experiments were made. They not only show this relation but serve to confirm the idea that the diminution of surface-tension is dependent solely on the amount of undecomposed soap present in the solution. Unfortunately in this pioneer work it was not realized how desirable it was to have the same kerosene for all experiments, and consequently the results are not strictly and numerically comparable except in the cases which are plotted together. But it is thought best at this time to publish these results, as their general tendency is quite clear and as they serve to indicate the basis on which rests the method for evaluating soaps which will soon be published.

A decinormal solution of sodium oleate was prepared by dissolving 14.1 grams of oleic acid in 500 cc. decinormal sodium hydroxide solution. The solution was almost completely clear. It was then filtered. The solution was diluted successively to lower concentrations and

SODIUM OLEATE.

Concentration.	N/10.	N/20.	N/40.	N/80.	N/160.	N/320.	N/640.	Water.
No. drops	464	269	184	116	80	51	35	20
	460	270	181	116	78	54		
Another set of solutions		292	184	118	74	49	32	..
				124	77	47	31	..

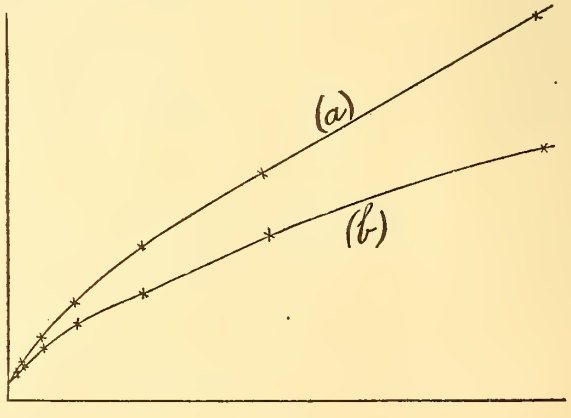


Fig. 1.

the number of drops formed when these various solutions were passed through kerosene was noted. Duplicate counts were made and the number of drops found in the separate counts are indicated.

In the diagram (Fig. 1, *a*) the ordinates show the number of drops formed and the abscissas show the concentrations. The number of drops is not proportional to the concentration but falls below proportionately as the concentration increases. In another experiment, the solutions were very carefully made and after preparation were placed in stoppered flasks in a large tank of water that they might be kept as nearly as possible at an average room temperature. The special object of this experiment was to ascertain whether any change took place on standing which would indicate that a hydrolysis of the soap was gradually going on. In this case the kerosene was the same throughout the experiment, but different from that used in the last. For each count the kerosene was changed except where the solutions were very dilute. The solutions of various concentration were prepared as rapidly as possible and then the counts made. After this the solutions were kept at the temperature of the tank of water and the counts repeated from day to day.

SODIUM OLEATE, TIME AND DILUTION.

Concentration.	N\|10.	N\|20.	N\|40.	N\|80.	N\|160.	N\|320.	N\|640.	Water.
December 2nd.....	297	196	125	88	63	41	26¼	14
December 3rd.....	296	200	126	37	61	40½	26½	14
December 5th.....	...	194	123	85	62	40½	26½	14
December 8th.....	301	...	132	...	59½	...	26½	...

From this it seems that in the course of six days no change takes place in the surface-tension. There is no evidence of any decomposition of the soap by a diminution of the number of drops in either strong or dilute solutions. The curve (Fig. I, *b*) showing the relation of concentration to number of drops is here shown in connection with that given above that it may be seen that the two have the same shape. They should not, however, be compared numerically except to enforce the fact that the effects are quite different with different samples of kerosene. When sodium oleate solutions stand in uncorked flasks, the carbon dioxide of the air decomposes the soap and the number of drops formed by a given solution gradually diminishes. This is especially marked in case of dilute solutions.

SODIUM PALMITATE AND STEARATE

Pure sodium palmitate and stearate are very little soluble in cold water, so little in fact that it is difficult by shaking them with cold water to produce a foam. Palmitate and stearate, when rubbed on the hands with cold distilled water, do not give the effect of soap but seem nearly like parafin or tallow. On account of this small solubility in cold water, it was necessary to devise a method of working at a higher temperature. The apparatus finally used is very simple. It consists of a beaker of about 700 cc. capacity provided with a cover of zinc with its edges turned down. In the cover are three holes one for the thermometer and two large enough to receive short wide test tubes. One of the test-tubes serves as a reservoir to hold the hot soap solution to be used, while the other is the working part of the apparatus. After the water in the beaker has been heated to boiling, a supply of the solution to be tested, which has been heated to bring the soap into solution, is placed in the reservoir tube. Then 15 cc. of kerosene are placed in the working tube and the pipette put in. When all is thoroughly heated to the boiling temperature, the pipette is filled with the solution, placed with its end below the oil and the number of drops counted. At first, great difficulty was encountered in getting concordant results but it was learned that when the lower end of the pipette was ground off the numerous minor capillary tubes in the glass of the lower part of the

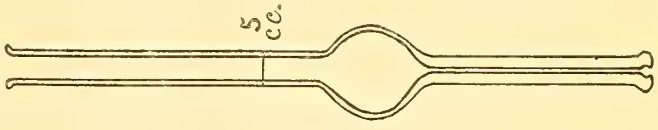


Fig 2

pipette continually gave out small amounts of air and when this formed into bubbbles on the end of the pipette it caused an increase in the number and decrease in the size of the drops which were forming. As this exudation of air was irregular and introduced a new factor in the surface-tension problem a means was necessary to prevent it. The remedy was to so shape the pipette that the lower end after grinding could be heated to the point of fusion until all the small capillaries were closed without closing the main capillary or narrowing too much the surface on which the drops were to form. The form finally worked out is shown in the accompanying sketch (Fig. 2).

Twentieth-normal sodium palmitate was made by treating 12.8 grams palmitic acid with 500 cc. deinormal sodium hydroxide and 500 cc. water, and heating all on the water-bath. The solution was quite clear. Small quantities of palmitic acid were added until oil droplets were plainly visible and the solution was filtered. This solution was then diluted with hot water to make the concentrations used below and these were kept on the steam-bath at 60°-70°. None of them were more than slightly cloudy at 60°-70°. They were tested in the apparatus just decribed, and gave the number of drops here set down.

SODIUM PALMITATE.

Concentration.	N\|20.	N\|40.	N\|80.	N\|160.	N\|320.	N\|640.	N\|1280.
No. drops.....	424	315	223	94	49	32	23
	...	...	226	88	49	33	23½

On plotting these data, the curve (Fig. 3, *a*) results. The sag in the curve near its origin was thought so remarkable that a second set of solutions was prepared and tested.

N\|20.	N\|30.	N\|40.	N\|80.	N\|160.	N\|320.	N\|640.	N\|1280.
403	368	308	208	90	40	31	24

When these data are plotted a curve is obtained in shape like that obained before and practically identical with it. If the same law connected concentration with the number of drops at low as at high concentration,

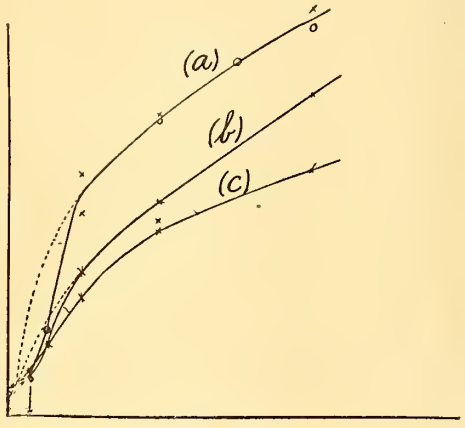


Fig. 3.

the curve would be a smooth one extending to the point showing the number of drops made by water, as indicated by the dotted line. That the curve falls below this line may be explained by supposing that in the dilute solutions a marked hydrolsysis takes place. Krafft and Stern found that it was necessary to dilute a solution of sodium palmitate till it contained only about 1 part in 1000 before the precipitate formed on cooling had the composition of the true acid salt, $C_{16}H_{31}O_2Na$, $C_{16}H_{32}O_2$. It is to be noted that the greates depression in the curve above is in the region where the coneentration is near to 1 part in 1000 of water. This point is marked by the arrow. If this is a true explanation, it is an interesting confirmation of the supposition that the number of drops is a function of the amount of undecomposed soap present. The hydrolysis lessens the amount of soap, and farther, the acid salt may in this case, as in the case of sodium oleate, actually diminish the number of drops which would be formed if the soap were alone. It would seem that we have here a proof that actual hydrolsis takes plaee while all of the substances are in solution. At the temperature which the work was done the solutions are quite clear and show no sign of a precipitate.

SODIUM STEARATE.

Sodium stearate solution (one-twentieth normal) was made by dissolving 2.84 grams chemically pure stearic acid in 100 cc. hot decinormal sodium hydroxide solution and diluting to 200 cc. with hot water. The dilute solutions were made as before and the number of drops made by each determined at 100°. None of the solntions at 100° show more than a very slight opalescence. The number of drops formed are shown in the table:

SODIUM STEARATE.

N\|20.	N\|40.	N\|80.	N\|160.	N\|320.	N\|640.	N\|1280.
328	213	143	72	38	31	29
340	228	149		40	28	33

The curve (Fig. 6, *b*) showing these numbers in a graphic way has very much the same shape as that for sodium palmitate and here also the greatest hydrolysis is apparently at a point where there is present about 1 part of the salt to 1000 water. By comparing the shape of these curves with that of sodium oleate at 100° it becomes evident that their peculiar form is not due to the action of the higher temperature. As a passing observation it may be noted that when the solutions stand in the cold, the precipitates formed in the N/160 solution and those of the greater concentration float in the solutions, while the precipitates formed in the N/320 solution and those of less eoncentration sink in the solutions, this change of relative density also taking plaee when the solution eontains about 1 part of sodium stearate in 1000 of water.

SODIUM OLEATE AT 100°

Sodium oleate solutions when tested at 100° show no special change in the form of the eurve eonneeting concentration and number of drops from that belonging to the oleate in the cold. Since the data were obtained using the same apparatus and same kerosene as that used for the palmitate and stearate they are plotted in the same diagram at *c* (Fig. 3).

ROSIN SOAP

The soap made by action of alkalies on colophony is so common a constituent of yellow soaps that a study of its solutions is of some interest, especially if we may gain knowledge of the reason of the disfavor with which the soap is regarded. A solution of rosin soap approximately decinormal was prepared by digesting in the cold powdered rosin in excess with decinormal sodium hydroxide solution as long as any rosin was dissolved. This solution was dilnted with freshly boiled cold water to give the concentrations indicated below and each tested in the cold to learn the number of drops made by each.

ROSIN SOAP IN THE COLD

Concentration.	N\|10.	N\|20.	N\|30.	N\|40.	N\|60.	N\|80.	N\|160.	N\|320.	N\|640.
No. drops...	361	236	201	151	118	78	47	32	26
	353	243	207	155	123	79	46	34	25

These results are plotted in curve *a* (Fig. 4). The same solutions were tested at 100°, using the same pipette and same kerosene.

ROSIN SOAP AT 100°

Concentration.	N\|10.	N\|20.	N\|30.	N\|40.	N\|60.	N\|80.	N\|320.	N\|640.
No. drops.....	288	215	183	123	68	45	35	29
	289	215	187	127	67	45	35	28

These results are plotted in curve *b* (Fig. 4). The notable thing in both curves is the sag near the origin. The more dilute solution give a smaller number of drops than might be expected if the same law held that governs the higher concentrations. If, as is indicated by the facts given in this and the preceding paper, the number of drops is a measure of the amount of undecomposed soap present in solution, it seems that with the rosin soap as with the palmitate and stearate a marked hydrolysis takes place in dilute solutions. The solutions with the exception of the decinormal and one-twentieth

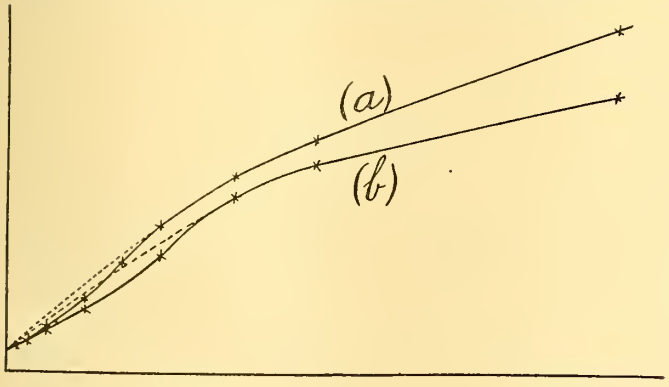


Fig. 4.

normal are much clouded, even in the cold, showing by this also that hydrolysis has taken place. The hot solutions, even the most concentrated, are cloudy. The hydrolysis indicated by this cloudliness is also shown by the fact that the curve for the hot solutions lies below that for the cold solutions. Elevation of temperature is favorable to diminution of surface-tension and a greater number of drops migh be expected with all these solution at the higher temperature but, as a smaller number is found the explanation lies in the hydrolysis caused by heating the solutions.

In looking over the results obtained, it is of interest to note their agreement with well-known facts in regard to the soaps. The oleate is very soluble in cold water and even in dilute solutions shows little hydrolysis. Soaps rich in oleate are useful for toilet purposes and for wool-scouring when cold water is used. Its stability in dilute solutions would make it of value as a detergent even until it is completely rinsed away and its ready solubility would make it easy to wash away.

For laundry work, dish-washing, and other work, when hot water is used, practical experience shows that the most desirable soap is a tallow soap. This is rich in palmitate and stearate with some oleate. As shown by the curves, the palmitate and stearate have a very high efficiency at a high temperature, especially when the concentration is great. When the concentration is lessened, marked hydrolysis takes place and the efficieny rapidly falls off, but with mixed soaps this low efficiency of the palmitate and stearate is supplemented by the relatively high efficiency of the oleate in dilute solutions, which will sustain the detergent effect untill impurities are washed away, including the acid palmitate and stearate which might otherwise be retained by the fabric. When the temperature is low, palmitate and stearate are so little soluble as to be of no practical value, since the only effect of water on them is to hydrolize them and set free a small quantity of alkali which, according to the hypothesis here favored, has no detergent effect on neutral oils.

Rosin soap is usually regarded as a comparatively undesirable ingredient of soaps. By a test with decinormal solution, it is of about the same efficiency according to the dropping test in kerosene as sodium oleate. But when the dilution curves are studied, it is seen that dilute solutions, especially in the heat show marked hydrolysis which is necessarily accompanied by separation of the rosin acids. Here the acid product of the hydrolysis separates in a cloud and does not stay in solution as with the palmitate and stearate in the heat. The separated rosin acids may well settle on the fabric being washed and impart to it the odor of rosin, cause it to be yellow and make it ready to easily take up dust. This effect may be partially offset in using mixed soaps by the other ingredients whose detergent action will tend to remove the rosin acids, but the evil effect will still, to some extent, remain.

In this work, when kerosene is used as the test substance, it is, of course, true that we are really measuring the detergent effect of the various soaps towards kerosene only. Some few observations show that toward other fats and oils the relative efficiency of the different soaps is different. It may be necessary to take this into account when judging the value of a soap for some special purpose.

Drawbacks In Soap Powder.

The Treasury Department has ruled as follows in the matter of drawback on "1776 Soap Powder," manufactured by B. T. Babbitt of New York, in part with the use of imported soda ash:

Treasury Department, Aug. 25, 1903.

Sir: On the exportation of "1776 Soap Powder," manufactured by B. T. Babbitt, incorporated, of New York, in part with the use of imported soda ash, a drawback will be allowed equal in amount to the duty paid on such imported material used, less the legal deduction of 1 per cent provided no domestic soda ash has been used in such manufacture.

The preliminary entry must show, separately, the number of shipping cases of each size, the number and size of packages of soap powder in each case, and the net weight and contents of each case, and of the entire shipment.

The drawback entry must show the net weight of soap powder exported and the quantity of imported soda ash contained therein. Said entry must further show, in addition to the usual averments, that the imported merchandise was manufactured of the materials and in the manner set forth in the manufacturer's sworn statement, dated August 12, 1903.

In liquidation, the quantity of soda ash which may be taken as the basis for the allowance of drawback may equal the quantity declared in the drawback entry provided that in no case shall it exceed the quantity certified by the appraiser after analysis of samples taken as ordered by the collector.

Department's instructions of December 7, 1895, in T. D. 16594, are hereby rescinded. Respectfully,

ROBERT B. ARMSTRONG,
Assistant Secretary.

New Form of Sal Soda.

The Solvay Co., of Brussels, Belgium, one of the largest alkali works in Europe, has been granted a patent in Germany on a new form of soda crystals in the shape of blocks.

A lukewarm, concentrated soda solution is kept constantly crutched through while subjected to a low temperature, whereby the separation of fine crystals is obtained; these fine crystals are removed by filtration, placed into iron frames and here subjected to a hydraulic pressure of 200 to 400 atmospheres in a warm temperature. Under this treatment the small srystals blend into a solid white mass with transparent edges as seen in a block of paraffin. Its water of crystallization amounts to 63 per cent.

Destroying Wrappers Bearing Trade-Marks.

Judge Hollister of the Hamilton County Court of Common Pleas decided against the plaintiff in the case of the Freeman Perfume Co. vs. M. Cora Dow, the cutter of Cincinnati, in which the plaintiff sought an injunction for mutilation of his package of face powder.

The case is of great importance. It involves a principle which if sustained will greatly aid in the enforcement of the contral and serial numbering plan.

The Freeman Perfume Co., which for several years has been making efforts to protect the retail price of its powder by adopting a system of serial numbering has, it is alleged, been greatly hindered by cutters who obtained the powder through indirect channels and removed the numbers to avoid detection. To bring the question to an issue the company brought the present suit.

The defendant claimed that in the absence of contractural relationship between the parties, they might do whatever they pleased with the powder, having bought and paid for it. The court found for the defendant, holding no cause of action. The court said that a purchaser of a chattel having no contractural relationship with the manufacturer might do what he pleased with it, notwithstanding that it was protected by a trade-mark. That the purchaser could tear off trade-mark from every package in his possession and otherwise mutilate as much as he desired and yet sell the powder as Freeman's Face Powder. The Freeman Perfume Co. has taken an appeal.

Soap Elsewhere.

ROUMANIA.

The soap industry in Roumania has improved during the last few years. In Jassy there are at present no fewer than eight factories at work. These formed themselves recently into a trust to protect their interests and keep up prices. In addition to the factories at Jassy, there are some at Galatz which produce common household soap. The price of this household soap is about 70 to 75 centimes per kilo. The local factories turn out also cocoa and almond soaps, and the Stella Works at Bucharest product glycerine and perfumed toilet soaps.

JAPAN.

The Japan Weekly Chronicle states that the manufacture of soaps and perfumery had its origin in the hygienic laboratory of the Home Department, where the art was taught in 1868, and has gradually developed. The principal producing districts are Osaka and Tokyo. The annual value of the manufactured soaps in these two places alone is 300,000 yen. The principal foreign markets for Japanese soap and perfumery are China, Korea and other Oriental countries. The value of soaps exported in 1901 was 266,465 yen, and that of perfumed waters 43,340 yen.

EGYPT.

As Egypt when the world was very young had all the civilization of the universe to itself, it is to be presumed that the uses of soap have been long known in Cairo and Alexandria. If it is true that the civilization of a people may be gauged by the quantity of soap expended per head it must be one further step forward when a nation commences to manufacture the article. This is

the case with Egypt. Henceforth the soap exporter will not be able to spoil the Egyptian, and the mummies, which before this have been put to strange uses, may perchance be employed as perfume for toilet soaps. The imports into the country are falling fast, and consist of specialties mainly. The value of imported soap fell from £97,513 in 1901 to £61,434 in 1902. The first soap factory was built at Alexandria in 1898, and there are now three large factories, with a prospect of others. The wholesale price of the native article is about £24 per ton, while the imported soaps cost from £28 to £36.

Trade-Marks.

The question of what constitutes a trade-mark is an ever recurring one in practice before the patent office, and the following concise rulings have recently been laid down upon the subject:

An application for a trade-mark must be limited to a single class of goods, and this means goods of substantially the same descriptive properties.

It is the purpose of the trade-mark law that one trade-mark should be registered for one fee. Where the application covers more than one trade-mark a division will be required.

A particular symbol may be used upon different classes of goods without a conflict of rights; when a symbol is used independent trade-marks are created.

Where a mark is used upon two kinds of goods which are not of "substantially the same descriptive properties," the trade-mark right acquired is not single.

The scope of a registered trade-mark extends no further than the remedy provided for its infringement, and this includes only a use of the symbol, upon "merchandise of substantially the same descriptive properties."

The trade-mark right originated in the application of a particular mark to a particular description of goods, and the purpose of the trade-mark law is to protect the use of the particular mark in connection with the particular goods.

The "class of merchandise" which must be stated in the application is merely a description of the field within which will be found the particular description of goods to which the mark under consideration has been appropriated.

Trade-mark registrations cover great "commercial classes" of goods or classes brought together by the custom of commerce, but only those classified by identity of intrinsic properties. This constitutes the line of demarkation between a "trade-mark" and a "trade name." If the particular mark is capable of appropriation for the general purposes of a particular commercial enterprise irrespective of the descriptive properties or intrinsic characteristics of the goods upon which it is used, it has ceased just here to be a trade-mark or to fall within the law relating to trade-marks.

The appropriation of a particular mark for the general purposes of a particular commercial enterprise irrespective of the descriptive properties of the goods upon which it is used cannot be protected as a trade-mark, but only by a court of equity under the doctrine of unfair competition.

Buying Goods By Sample.

In a recent suit for recovery of damage by reason of goods sold being below the standard of samples on which the purchase was made, Judge Vann in his opinion said: "Upon a sale by sample there is an express warranty that the goods are equal in quality to the sample furnished. It amounts to an understanding on the part of the seller with the purchaser that all the goods are similar, both in nature and quality, to those exhibited. The rule is the same whether the goods are in existence at the time of the contract of sale or are to be manufactured at some subsequent period. If the goods when delivered do not equal the sample the buyer need not return them in order to recover for the breach of warranty, but can recovevr the difference between the quality called for by the sample and the goods received at any time he desires to make such an application to the seller or to the courts."

The Process *of* Wet Cleaning.

Of the many methods of cleaning used by the garment cleaner the wet process is the oldest, and most used for dirty work. In my last article I spoke upon the dry process as used for silk goods, and while there is practically only one method of carrying out the process of cleaning with benzine spirit, owing to the fact that the spirit has little or no action on any of the fabrics or colors, the wet process needs a great amount of judgment, care and skill to get the best results upon the work treated.

The processes for cleaning silk goods are very much the same as for woolen goods, only on account of their delicacy in many cases, and the valuable character of the garments, they require to be very carefully handled. All goods, before being subjected to the cleaning process, must be very carefully examined to ascertain the presence of stains of any kind, which must be removed by some suitable method.

In a short article like this it is impossible to give the various ways in which different colors should be treated. The cleaner, to do his work well, should have a good knowledge of dyeing, as one of the chief objects in cleaning is to give the colors their original shade and freshness. Wet cleaning is a greater art by far than dry

cleaning. It is well to note that it is seldom machines of any kind are used for wet cleaning, as they are liable to mill the goods.

Let us suppose we have a number of woolen dresses to clean of cloth mixture, such as tweeds, etc. Take a tub of water of about 6 or 8 gallons at about 90 degrees of heat, to which add one-half pound of good oil soap, free from tallow; dissolve this in water by well boiling. A stock of boiled soap should be made by dissolving 28 pounds of soap in 45 gallons of water. Put in one garment, and work well in soap liquor by hand until the soap gets well into the material. When this is done, take the garment out and brush it well all over with dissolved soap at the same heat; then pass it into another tub of soap liquor, half the strength of the soap used in the first, and work in this until the loose dirt, which has been softened by brushing, frees itself from the garment. Now put it in the hydro extractor, and extract the soap liquor out as much as possible; after this, rinse the garment in two separate rinses of clean water at the same heat as your soap liquor. Then put into a bath of cold water, to which has been added a little sulphuric acid; move about in this a few minutes, take out and place in another bath of cold water containing common salt, which has been added until it has a fairly salty taste; leave in this liquor until you have finished a batch of, say, half-dozen dresses; then fold straight, and extract as much water out as possible with the hydro; shake out well, and dry at about 110 to 130 degrees of heat. If the goods are of a thin class, a little boiled starch may be put into the salt bath; which will give the goods a much better feel when finished.

Goods with linings of sateen are very often difficult to clean, owing to the dye being of such a loose character. A large number of these cotton linings are not really dyed, but colored. When they are in the piece they are taken and run through a paste of color on a machine called a pad; this machine squeezes the paste into the sateen and both colors and stiffens them at the same time. Water of itself will take the color almost away, and it cannot be brought back again. When, by experience, the cleaner finds he has this class to deal with, he must not take them to clean, except at owner's risk. I have many times known the dry process to take the color out of these linings. Then we have the class linings which, say, for scarlets and reds are dyed with the benzopurpurine and congo colors. These are easily dealt with if the cleaner has had much experience, but if not experienced he may not know, when the goods are in the soap bath, what class of colors the linings have been dyed with, and he will find, when placing the garments into the acid bath, that the colors turn almost black, and he may be in some trepidation as to how to treat them next.

Let us suppose this is the case, namely, that when putting the goods into the acid bath the red cotton linings turn almost black. Do not take them out at once, but allow them to stay in a minute or two, so that the acid may have the same action all over the garment, or the color may come up cloudy; then take out and run them through a warm soap bath, with a little soda added; this will immediately bring back the color to its original shade, and after well rinsing in warm water, put into a clean salt bath, and hydro in the usual way.

My readers must excuse me dealing so much with the linings, for the cleaner has very often more trouble from this source than any other. I am glad to say it is much better in this respect at the present day than it was a number of years ago. Cotton goods are generally dyed with much faster colors than they used to be.

It is many times more difficult to clean dresses of light shades (self colors), as they are liable to come up uneven in shade after cleaning—and whenever possible the dry process must be used. This trouble often arises when the material has been dyed with an acid color. The best way to treat these is to give them a good soap liquor or oil soap (free from alkali) and move them freely about in this liquor until the soap is well into the material. When this has been done brush well on the table, but never allow the garment to lie on a heap; spread it well out while brushing, then work through the second soap and rinse as before, also passing through acid and salt baths of the same heat as the rinse waters; hydro and dry as usual.

There are some blues of the "royal" shades which, when treated in a soap bath, will turn into a very pale shade of blue, and yet the color does not bleed much into the liquor. These are dyed with a dye called alkali blue, which is dyed in a soap or borax bath, and afterwards developed in a hot sulphuric acid bath. When cleaning these, give them plenty of room in the soap liquor, so as to give them every chance of the color keeping even in shade. In the second bath do not have much soap, and after rinsing them pass them into a hot bath, containing 1-3 gill of sulphuric acid to about 15 gallons of water; then rinse well again in clean cold water, stiffen and dry.

It is difficult to decide what class of goods to write about, as the number the cleaner gets to be treated are legion. I may say the soaping is practically the same for all materials, but the process must be modified as the cleaner thinks best, according to the material and colors he has to deal with.

We will next have a few words on the subject of cretonnes. First give them a good rinsing in cold water, which will free them from a great amount of dust; then pass them through a soap liquor perfectly cold, working them about constantly; brush in the ordi-

nary way; pass them through another tub of cold soap liquor; rinse in two rinses of cold water; and after well rinsing move the goods about in a bath of water to which has been added one-half gill of acetic acid to 30 gallons of water; then pass into the salt water, and stiffen with boiled starch. Do not let them stand, but hydro immediately after starching and hang up to dry.

Gentlemen's clothes seldom give much trouble in wet or dry cleaning, but the greatest care should be used to see that the packing in the shoulders, etc., is well fastened with cotton thread, so that the stiffening, etc., will be in its proper place when finished.

The great trouble in cleaning all woolen garments by the soap process is that of shrinkage, which nearly always occurs to some small degree and is rather difficult to avoid. The precautions to be taken consist in not using water that is too hot, which is a very cause of shrinkage in woolen goods. Water on some classes of woolen cloth will shrink them without any soap whatever. I find the chief thing to watch is always to see that both soap liquors and the two rinse waters are at exactly the same heat; it matters little to a few degrees at what heat, but have them at the same all through the process, say at 80 to 100 degrees, according to the colors you have to deal with. By F. Taylor, in The Power Laundry Journal.

On Lubricants.

In general, the term "lubricant" is applied to any fluid, semi-fluid, or solid substance capable of being introduced between two bearing surfaces to reduce friction. It is at once apparent that the substances capable of being so used are limited in number, that as a class they must possess certain well-defined properties, and that certain equally well-marked features must, in as great a measure as possible, be absent. In enumerating the properties to be desiderated in a lubricant, much necessarily depends on the nature and surroundings of the surface to be lubricated, as well as on their speed and average temperature. To mention, in the first place, the features that militate against the successful application of a given material as a lubricant, one of the most serious drawbacks is any tendency to "gum." This property is met with in certain vegetable and fish oils and is fatal to good lubricating qualities. Such an oil, if exposed to the air for some time, becomes more or less sticky or tacky owing to chemical changes. As extreme instances we may mention linseed and the other so-called drying oils, but cottonseed, cod, skate and rosin oil exhibit the same phenomenon in a less degree. Thurston's researches have shown, however, that *per se* linseed oil may be an efficient lubricant. This, however, is only under very high pressures, the co-efficient of friction being, with low pressures very great.

Again, many oils in presence of superheated or high-pressure steam become decomposed, giving rise to acids which corrode the metal work. The smallest trace of free acid is to be deprecated, and on this account an oil that really turns rancid is to be used warily. Oils differ, moreover, as regard the ratio at which their fluidity increases as the temperature rises. This property of viscosity will be referred to later, meanwhile it is sufficient to say that the more rapidly the viscosity alters under the influence of changes of temperature the less valuable is the oil for lubricating purposes. Excessive viscosity under normal conditions is to be condemned. Oils of apparently the same general characters differ considerably in respect to the weight evaporated at a given temperature in equal lengths of time. An easily evaporated oil is not to be recommended, not only on account of the greater loss that results, but also because the lighter portion, which is volatilised, robs the oil of many of its best features. Finally, in the matter of greases, and other worked-up products the absence of grit is essential.

It rarely happens that an oil is entirely free from all the undesirable properties above referred to, nor is it often the case that a single oil possesses all the requisites for its successful application in a particular case. It follows therefore that recourse must be had to blending two or more oils together in order to obtain the desired result.

Animal fats and oils—Sperm, whale, train, neats-foot, tallow, lard and horsefat oils are the chief. Tallow is a solid member of the class. Sperm oil is probably the best all-around lubricant known, combining body with a low viscosity and possessing exceptional powers of reducing friction. For high speeds under light pressures it is unequalled. As a class the animal oils possess similar properties, hence their introduction into an oil which, through excessive fluidity is readily squeezed from between the bearings, is frequently of great advantage. This lard or tallow oil with mineral oil of 910 to 920 gravity forms a good cylinder oil. For general light work sperm and 905 mineral is very suitable. For pistons and heated machinery a more solid lubricant is required, and tallow is frequently introduced with or without the addition of plumbago. This class of oils has on an average a sensibly lower specific gravity than vegetable oils. It ranges from 885 (Sperm) to 920.

Vegetable fats and oils.—Colza, rape, olive, palm and castor oil are members of the class. Rape possesses advantages for heavy machinery, and in general this class does excellently for slow speeds. Olive is little used now. Refined rape, or colza, either alone or with

mineral oil, is very suitable for axles of vehicles. Palm oil, on account of its solidity, has properties that recommend it for the fabrication of greases for hot bearings, one of the main outlets for these being for railway axles. Owing to the increased production of mineral lubricating oils at reduced cost, and the high price of the best animal oil of good body, there have been introduced of recent years the so-called thickened or "blown" oils. These are principally cottonseed and rape oils, through which a current of air has been passed at a suitable temperature with the result that both the specific gravity and the viscosity of the oil are raised considerably, enabling it to be mixed with mineral oils which would otherwise be too thin for useful work. A good engine oil consists of 905 mineral and thickened rape. The exceptional body possessed by castor oil recommends it for certain work where the temperature is above the normal, *e. g.,* for cylinders. This oil has the curious property of being immixable with mineral oils.

The specific gravity of the fluid members of this group runs about 924. It may be as low, however, as 913 (colza), and as high as 970 (castor).

Mineral or hydrocarbon oils.—Chemically these differ widely from the preceding in that they are simply hydrocarbons, and are incapable of decomposition in presence of alkalies to form soaps. They can moreover be distilled without change, and their specific gravity varies from under 900 to nearly 1,000. In many cases they are used alone for purposes of lubrication, but as already stated, with high pressures they are as a class too fluid, and substances of greater body must be added to correct this fault. The employment of thick mineral oils or semi-fluid mineral products is on this account very general, although actual experiments has shown that the co-efficient of friction is considerably higher with them than with animal oils of good body. The use of efficient *lubricators* renders the thicker mineral oils and grease quite suitable for a variety of purposes.

In selecting a lubricant for a particular purpose, the points one would consider would be something like the following:—Is the proposed lubricant free from the faults enumerated at the beginning of this article? Will the temperature be above the normal? Will the speed and pressure be high or low? Will the bearing surfaces be exposed to steam or not? What is the cheapest effective lubricant or blend of lubricants that will satisfy the conditions?

Reggy—Bah Jove, that laundryman should be more progressive."

Peggy—"In what way?"

Reggy—"Well, if he must use soap in the wash, he ought to have it flavored with vanilla and wintergreen."

What A Contract Constitutes.

The definition of the word "contract" is an agreement between two or more parties, based upon a sufficient consideration, to do or not to do, some particular thing.

In making a contract the parties thereto must be legally responsible. Minors, idiots, insane persons, drunkards, who know not what they are doing and who cannot exercise their own free will, cannot enter into any contract, or be forced to carry out its considerations and agreements, if it can be proven they were in such a mental condition as described.

The consideration of a contract is something given, done, or promised to be given or done by persons to whom the promise is made.

A contract differs from an agreement in that it implies, or expresses, the several agreements made by the parties thereto.

Every one is free to make any contract he chooses except such as are forbidden by law.

The fundamental rule of law regarding contracts is, that everyone must fulfill every agreement he makes unless some new agreement has changed or abrogated it.

A valuable consideration of a contract is one in which the value is equal to money, or may be changed into money.

The law takes no notice of bargains that may be good or bad, it requires only that something be done by the parties, no matter how small the consideration. For instance, $4,000 worth of property can be sold for $2,000.

A guaranty contract must be in writing.

A contract which cannot be performed within a year must be in writing.

A contract must be wholly written or wholly verbal. There is no dividing line between the two.

A contract for the purchase or sale of personal property over a certain amount, ranging from $30 to $200, in different states, must be in writing.

A verbal agreement to dissolve a written contract is not legal. The release must be under seal.

If any part of goods are delivered to a purchaser and accepted by him the whole contract is binding without a written contract to that effect. If any part of the price implied in the contract is paid and received, the whole contract is binding without writing.

Unlawful contracts are many, and some of them apply to business. Where consent to an agreement is given by mistake it cannot become a contract.

If no time of payment is made in a contract, payment must be made on the delivery of the goods.

An alteration of a contract in a material part, after it has been drawn up and signed by the parties, renders it void.

A contract totally restraining the exercise of a man's trade, or profession, is void; but one restraining him in any particular place is not void.

Contracts that cannot be enforced are many. If a person agrees to serve as laborer or clerk he cannot be compelled to fulfill his agreement, but damages for not doing so may be recovered.

The legal relations between the employer and employe, as in an employer's contract, must specify and be understood to mean only what it implies. The person employed to do a certain kind of work must fulfill his agreement, but he need not do anything else. *It is an implied part of every agreement to render services, that the work will be done with ordinary care, skill, and diligence.* A failure in this makes him forfeit his compensation, no matter how much he has done.

Where a person is employed to perform a certain class of work, *the time for which he, or she is hired is an important element,* whether that time be a day, a week, a month, a year, or longer. When no time of service is specified, the time when payment is made will indicate the length of employment. Thus so many dollars a week, or a month, indicates the hiring for a week or a month. If work continues the next week or month in the same manner it is a renewal, or a new contract on the same terms.

An employe may be discharged at the end of his time without cause or previous notice. If hired for so much per week and for no definite time, he may be discharged at the end of any week, *and he has no right to insist upon working after he is discharged.* If, however, the discharge is without good cause, *i. e., if* the work is all right, he is entitled to payment for the whole period.

An employe can leave his employment at the end of the time he was engaged for without giving notice, but if he leaves before the expiration of the time specified in his agreement, he is entitled to no pay for that period, no matter how much of the time he has worked. —National Laundry Journal.

Odourless Tallow-Like Product.

English Patent No. 2202. Date of Application, 29th Jaunary, 1903.

Gregor Sandberg, Petroffk 19, Moscow, Russia, Engineer.

This invention relates to improvements in the process for the manufacture of an odourless consistent product of seal, whale and dolphin oil and the like, and various fish fats, such as codling, or shark fat and the like, to serve as a substitute for tallow and known as "train oil tallow."

The purpose of the improvements is to increase the percentage of finished "train oil tallow" obtained from the raw materials (oils and fish fats) to increase, if desired, the consistency of the finished product and to improve the quality of the glycerine obtained during the treatment.

The improvements consist:

1. In employing, under certain conditions of temperature, oils and fish fats which have been previously split up, or separated from the glycerine, by any of the known methods of saponification.

The fatty acids obtained by this means from the oils and fats are entirely liquid and have a disagreeable, fishy odour, and are treated as follows:

After the splitting up, the acids are introduced into a vessel into which at least 25 per cent. of sulphuric acid of 66° Beaume are slowly poured, the mass being continuously stirred and cooled to a temperature approximately 12 to 20° Centigrade. The stirring of the mixture is then carefully continued until its temperature has been raised to approximately 25 to 40° Centigrade by the reaction of the sulphuric acid. The sulphuric acid remaining in the mass is removed by careful washing and by subsequent direct treatment of the mixture with steam, the remaining fatty sulpho acids are completely decomposed.

The mass is thereupon again washed.

By this treatment all the malodorous substances contained in the fatty acids, as amines and amides of the acids and amido acids, are converted into odourless salts, and removed from the mass. The consistence of the latter is obtained by the simultaneous conversion of the physetoleic acid into oxypalmitic acid and of the oleic acid into oxystearic acid. Few anhydrides are formed and the congealing point of the odourless consistent train-oil tallow obtained is at from 20 to 24° Centigrade. With this method of treatment, a larger proportion of train-oil tallow is obtained from the oils and fish fats than by the treatment of unsaponified oils and fish fats.

The anhydrides produced are converted into fatty acids. If the treament of the split (saponfied) oils and fats described under 1 is modified by causing the temperature to be increased with the continuous stirring to approximately 60 to 70° Centigrade, by the reaction of 25 per cent. or more of sulphuric acid added while the temperature is 12 to 20° Centigrade, the congealing temperature of the mass obtained will be higher but the proportion of anhydrides formed will be larger. These anhydrides can be wholly or in part converted into fatty acids by the treatment of the mass in autoclaves with water under steam pressure.

Fatty acids are converted into anhydrides by losing one molecule of water and *vice versa,* anhydrides are converted into fatty acids by the addition of water, this

being done in the present case in autoclaves under pressure.

By this means not only a higher congealing temperature of the odourless train oil-tallow is obtained but the proportion of tallow obtained from the oils and fish fats is greater than when the conversion of the anhydrides into fatty acids does not take place.

To convert the maladorous, liquid fatty acids obtained by the splitting up of the oils and fish fats to an odourless consistent mass, they can also be treated at a lower temperature (30 to 35°) Centigrade) with nitrous and sulphuric acid; owing to the small quantity of anyhydrides formed during this treatment the conversion thereof into fatty acids is unnecessary.

The conversion of the anhydrides to fatty acids by treatment with water in an autoclave can also take place when unsaponified oils and fish fats are used for making the "train-oil-tallow."

The new,odourless product termed "train-oil-tallow" obtained by the above-described process is a mixture of fatty acids, principally comprising: oxystearic acid, oxypalmitic acid, stearolactone, oleic acid, physetoleic acid and other liquid fats. The separation of the hard and liquid fatty acids from the "train-oil-tallow" is effected in the usual manner and the "train-oil-tallow" and the hard liquid mixtures of fatty acids separated therefrom can then be used for the manufacture of odourless soaps and candles.

Dyer's Soaps.

Soap is to be used to a fairly considerable extent in the dyeing of cotton and silk goods; rarely, if at all, in the dyeing of wool fabrics. In the dyeing of many direct colours, like Congo red, benzopurpine, etc., soap is frequently used to the extent of 3 to 3½ lb. per cwt. of cotton which is dyed. Almost any good, well-made soap will answer here.

The Turkey red, alizarine red, and Para red dyer uses soap after dyeing his cotton goods. The object is to bring about a brightening effect on the colour, while there is no doubt the operation tends to better fix the colour on the cotton. The soap effects these objects by first removing any excess of dyestuff from the cotton which has not been united with the mordant that was first fixed on the cotton, and which excess of dyestuff, if left in, would dull the colour, and might subsequently give rise to stains. Secondly, there is no doubt but that the soap has a tendency to enter into combination with the dyestuff on the one hand and the mordant on the other, so that a triple combination of soap, dye and mordant is fixed on the cotton, which is faster and brighter than a simple combination of dye and mordant.

The soaping is generally affected by working or passing the dyed goods through a soap liquor of a strength of 2 lb. per 50 gallons of water at about 150 deg. F.

The best soap for this purpose is the olive oil soap already referred to under "Calico Printers' Soaps," (see *Oil and Colourman's Journal* for August). Palm-oil soap may also be used. It is desirable that the soap which is used should be neutral, fairly soluble in water, pleasant in odour, and not liable to turn rancid. Almost any kind of soap fulfilling these conditions is available.

The soaps mentioned under the head of "Calico Printers' Soaps" are useful for this work.

Silk Soaps—Soap has been used from very early times in the process of boiling off or degumming silk. The silk fibre, as it is spun by the silkworm, is a long, cylindrical fibre, formed of two portion—an inner portion (the silk fibre proper) named fibroin, and an outer portion, constituting 20 to 30 per cent. of the total fibre, called the gum or glue, technically sericin. The fibroin is a lustrous, soft fibre, but the coating of sericin dulls this lustre and imparts a harsh feel. To obtain therefore, the full lustre of the silk, the outer coating of sericin or gum must be removed, and this is universally effected by two or three successive boilings in a solution of soap. Generally in the first operation it is carried on at a temperature of 190 deg. F. to 200 deg. F.; there is used about 3 lb. of soap to 10 lb. silk, with 25 to 30 gallons of water. This liquor causes the silk to swell up, then the gum begins to dissolve away. This first operation is generally known as stripping, or by the French term, "de gommage."

The second operation consists in using a weaker soap liquor—1 lb. in 30 gallons of water to each 10 lbs. of silk, and at from 200 deg. to 210 deg. F. It is called "boiling off." The whole of the gum is removed, leaving the silk quite clean, lustrous, and supple. The used soap liquor is known as "boiled-off liquor," and is used in the dyeing of the silk.

Soaps adapted for boiling off silk should be easily soluble in water, for fluidity means easy penetration into the substance of the silk fabric, and also easier washing out of the silk afterwards. Further, it should be free from colour, so that it will not lead to the silk becoming stained, and it should not be liable to become rancid, and so impart an unpleasant odour to the silk.

It is not necessary that the soap should be quite neutral, a slight degree of alkalinity is rather of advantage, for the silk gum is rather more soluble in alkaline solutions than in neutral solutions; but an excess of free alkali in the soap should be avoided, particularly if that free alkali is present in the form of caustic soda, for this may affect the fibroin of the silk, making it hard and dull.

The best soap for silk is a soft soap made from good

olive oil, lard oil, or nut oil, for such soaps are easily soluble and pleasant in odour. Hard soaps made from the same oils are generally used, particularly the olive oil soap, for they are cheaper than soft soap. Palm oil soap, either hard or soft, does well, but is not so soluble as an olive soap.

Tallow soaps art not suitable, and should not be used. Cotton oil soaps are apt to be coloured, while they go rancid. Palm nut oil and cocoanut oil soaps are excellent as regards being soluble and free from colour, but they have a tendency to become rancid, which is rather objectionable. Castor oil forms a very soluble soap, but the odour is rather objectionable. Soaps made from oleic acid are very good, being easy soluble and free from odour.

Should the silk-worker prefer to use an alkaline soap, it is better to buy a neutral soap from the soap manufacturer, and add a little potassium carbonate himself. He will then know what he is working with.

The use and treatment of the old soap or boiled-off liquors will be dealt with on another occasion.

Soap is frequently used in the dyeing of silk, sometimes by itself, but more often in conjunction with acetic or sulphuric acid. Any good, well-made soap will answer for this purpose. One of the chief requirements is that the soap shall be made from fats that will not become rancid, for the silk takes up a great deal of the soap liquor, and if acid has been used the fatty matter of the soap is largely in the free or acid condition, and it is difficult to eliminate it entirely from the silk. The writer has handled dyed silks which had a strong odour due to the use of soaps made from fats that have turned rancid. A good olive oil or palm oil soap is very good for dyeing silk, or an oleic acid soap may be used.—Oil and Colourman's Journal.

Report of Committee On Trade-Marks.

At the convention of National Wholesale Druggists' Association last month, the Committee on Trade Marks, as usual, submitted an elaborate review of recent occurrences and decisions affecting the trade mark, as follows: (We copy this from the complete proceeding published in the Oil, Paints & Drug Reporter):

To the President and Members of the National Wholesale Druggists' Association:—Your Committee on Trade Marks reports that during the past year it has given such attention as was convenient to litigation affecting trade marks and unfair competition. Before referring specifically to any of the decisions which have been rendered during the past year, it desires very briefly to make certain suggestions as to the best available method of fighting unfair competition, with a view to effecting practical results. It is the opinion of the committee that in the interest of economy, proprietors of remedies cannot be too zealous or active in striking at every attack upon their exclusive rights, where there is substantial reason for such action. The value of the proprietary article consists largely in the right to the monopoly connected with it. In so far as that is encroached upon the value of a name, or form of package, is proportionally decreased. It is, however, equally true and important that attacks upon infringement should not be made unless there is substantial and reasonable ground to believe that they will succeed, because, as is very apparent, the defeat of an assertion to exclusive right, is bound to be widely advertised, and to incite further infringement. It is to be said, however, that the tendency of the decisions of the courts is in favor of such rights, and that any proprietor who has not, intentionally or otherwise, misled the public, may be sure of relief against any palpable infringement. To permit such infringement to go unchallenged and unchecked is practically to abandon the claim of exclusive right, and thus encourage further infringement, and eventually lose it altogether. In a wise handling of these matters, however, it is not always necessary to begin with litigation. In many instances a visit to the infringer with a clear statement of the lawful proprietor's rights, and of the means which he intends to take to enforce them will be found to be all that is necessary to restrain infringement. This statement is the result of very considerable experience. If, however, litigation becomes necessary, no necessary expense should be spared in the preparation and trial of the case. A slipshod preparation, through mistaken ideas of economy, in litigation of this nature, is really most unwise extravagance. Assuming that it has been found necessary to resort to the courts, and the proprietor has been successful, it is a mistake to suppose that there remains nothing further to be done. The value of an injunction obtained in litigation of thise nature depends upon the use made of it. It is not alone sufficient to enjoin the infringer. The best effect of such litigation is to be found in the influence which it may exert upon jobbers and retailers throughout the country. Nothing is more desirable than that they should be educated to a knowledge that the courts can, and will, protect the proprietor in his legitimate right, and that there can be no security in the sale of dishonest counterfeits, and no permanence in a trade built up in them. It is the opinion of the committee that proprietors in general have not adopted the systematic as well as vigorous methods which should be used in dealing with this form of piracy.

Your committee comes now to a consideration of some of the cases decided during the past year.

In any year's grist of cases, there are found some turning upon the question of whether a name is, or is

not, geographical, the broad principle being that a geographical name cannot be adopted as a trade mark. In our report of last year we called attention to the decision of the Supreme Court of the United States in Elgin National Watch Co. vs. Illinois National Watch Co., reported in Volume 179 of the United States Reports at page 665, in which it was held that even though a trade mark was not in itself good as such, yet where the use of the word had come to denote the particular manufacturer or vender, relief against unfair competition or perfidious dealing would be awarded by requiring the use of the word by another, to be confined to its primary sense by such limitations as would prevent misapprehension on the question of origin. The case indicated that this high court was rather inclined to relax the rule as to the use of geographical names, and it was hoped that there might be at least a confining of the rule to cases to which it clearly applied. One decision during the last year has, however, come to the notice of your committee, which, will all respect to the court by which it was rendered, seems to carry the doctrine that a geographical name cannot be monopolized as a trade mark to an extreme. The case is that of Allen B. Wrisley Co. vs. Iowa Soap Company, decided in the Circuit Court of Appeals for the Eighth Circuit, and reported in Volume 122 of Federal Reports, at page 796. In this case the appellant sought to restrain the appellee from using the words "our country soap," as an infringement upon its trade mark "old country soap," and the court affirmed the decision of the lower court in refusing an injunction, and the court says: "old country" is a term in common use to designate a country occupied by civilized man before the American continent was. It plainly meant a different country from our country, just as the "old continent" means the continent of Europe, as distinguished from "our continent." It is both a geographical term, and a term common in use to designate a country. The complainant may not, therefore, exclude others from its use, or become the owner of any property in it as a trade mark."

"Old country" certainly specifies no particular portion of the globe. It may mean Germany, as well as Ireland, or to an expatriated Turk, it may mean Turkey. Thus it points to no particular country, which might have been the place of origin of this soap, or particular kind of soap, and no such country is indicated to the mind of the purchaser. This decision seems the more remarkable to your committee by reason of the fact that it was rendered by the same court which delivered the opinion in the case of Shaver vs. Heller & Metz Co., 105 Federal, page 821, which was referred to in the last report of your committee, and the two opinions were written by the same judge. In that case the complainant claimed the right to the name of "American Ball Blue" and "American Wash Blue." The defendant sought to defeat his claim upon the defense that the names were geographical and descriptive, and could not be used as trade marks, but that court did grant an injunction against the use of those words in that connection. Their decision in the "Old Country Soap" Case does not seem to be a straining of the rule as to the use of geographical names, and does seem to be inconsistent with their opinion in the "American Ball Blue" case.

In this same connection, your committee is pleased to refer to another decision where the same rule was sought to be interposed, but without success, and where the court refused to stick to the letter of the rule, and to overlook its reason. We refer to the case of Bauer & Co. vs. Siegert, reported in the 120 Federal Reporter at page 81, which concerned the well-known Angostura Bitters. These bitters were originally put up in 1824, at the town of Angostura, Venezuela, under the name of "Aromatic Bitters." About 1830 the name "Angostura" was adopted. In 1846, the name of the town of Angostura was changed by decree of State to that of Ciudad Bolivar, since which time the name "Angostura" as the name of a town has officially ceased to exist, and gradually, as a matter of fact, has ceased to be used. It was claimed by the defendant that the name was geographical; that the preparation so got its title, and that it could not be monopolized as a trade mark, but the court, being the Court of Appeals for the Seventh Circuit, brushed the contention aside, on the ground that the town had ceased to exist by that name. It seems to your committee, that the name Angostura" even though it has been superseded by decree, is still a geographical name, suggesting to any one familiar with geography, the place now called Ciudad Boliver, and certainly more descriptive than the general term "old country." A discussion of this phase of the case in Wrisley vs. Iowa Soap Co., leads to a consideration of other expressions in it, which the committee considers unfortunate. A fruitful subject of discussion by the courts in handling cases of this class, is how far a newcomer in the market must distinguish his goods from those sold under a similar name, which have already achieved a reputation and standing in the trade. We pointed out in our last report that the Supreme Court of the United States in Saxlehner vs. Eiser & Mendelson Co., 179 U. S. page 19, had held that where the bottles and labels were similar, even the use of a different language upon the label, and an additional label, expressly pointing out that the new article was not that with which the public was familiar, were not sufficient to prevent the deception, and were therefore restrained by injunction. Apparently that court intended to hold that even the unwary purchaser was to be protected and indeed in the leading case of McDain vs. Fleming, 96 U. S. Re-

ports, page 245; the same court made it clear that in its opinion the unwary were entitled to be protected. In the case of Coleman vs. Crump, 70 New York, page 573, it is expressly stated that if the resemblance is calculated to deceive the careless or unwary, the injured person is entitled to relief. With great respect for the court rendering that decision in the soap case, the committee expresses its belief that when the court after stating that the duty is imposed upon every manufacturer or vender, to so distinguish the article he makes, or the goods he sells, from those of his rival, that neither its name, nor its address will probably deceive the public or mislead the common buyer, that he is not required to insure to the negligent, or indifferent, a knowledge of the manufacture or ownership of the article he presents, and that his competitor has no better right to a monopoly of the trade of the careless or indifferent than he has, says:— "One who so names and dresses his product that a purchaser who exercises ordinary care to ascertain the source of its manufacture, can readily learn that fact by a reasonable examination of the boxes or wrappers that cover it, has fairly discharged his duty to the public and to his rival," it does not give sufficient weight to the circumstances under which articles of the character in question are usually sold. It is commonly the case that the purchaser, desiring a special article, is careless or indifferent, and makes no particular examination merely because he does not know that any new comer is in the field. He knows what he wants, but nothing has come to his attention to warn him that care must be used. It is for this reason, as we are advised, that courts have held that a new comer must not only take pains not to deceive by resemblance, but to clearly distinguish his article from that which has become well known. This seems sensible and reasonable and we are assured that the burden of decisions sustains such a view. As is stated in a case to which we will next refer "their duty is to distinguish and not to imitate."

Another question frequently presented in trade mark cases is how far a person has a right to use his own name in connection with an article, when that name has become well known in the same connection through its use by others. The attention of the committee has been called to a very striking case which, while it does not affect proprietary remedies or articles handled by the members of this association, is yet in principle applicable to questions arising in trade mark litigation, in which you may be interested. It is a very satisfactory decision of the Circuit Court of Appeals for the Seventh Circuit in the case of Chickering and others against Chickering & Sons, reported in volume 120 Federal Reporter, at page 69. Complainant in that case was a corporation which manufactured the well-known Chickering piano. The defendants, constituting the firm of Chickering Bros., were the sole living male representatives of the family which originally made the Chickering piano. They engaged in the manufacture of pianos in the fall of 1898, and marked them on the fall board with the name "Chickering Bros.," complainant's being marked "Chickering & Sons," the letters used being alike. They advertised the fact that they were the sole living representatives of the family which originated the Chickering piano, and while they placed upon the back of their pianos a notice, in which they announced "in order to prevent confusion and possible misrepresentation, we wish to state that the firm of Chickering Bros. has no connection with the Eastern company of the same name" and that its pianos were made in Chicago, the court below issued a preliminary injunction and the Court of Appeals sustained their action. The defendants were enjoined from using as the name of the piano the word "Chickering," either alone or in connection with other words or letters; also to designate the name of a corporation manufacturing or dealing in pianos, and from using on pianos the word "Chickering" alone or with other words or letters to designate the maker or makers thereof, without displaying in connection therewith plainly and in a prominent manner a statement that the defendants were in no way connected with Chickering & Sons, Boston, Mass., and that the defendant's pianos were not the original Chickering pianos. There were a number of other specific orders of injunction, each tending to restrain the use of the words "Chickering," in any way that might cause confusion, and the court said, concerning the duty of the defendant "their duty was to distinguish and not to imitate." The effect of this decision is, as we are advised, to practically make it impossible for the Chickerings to use their own name in connection with the manufacture of pianos without making it clearly appear so that there could be no mistake about it, that the pianos thus offered for sale, were not those well known under that name. Apparently the essence of the rule which a newcomer in the field is bound to follow, is to be found in the language quoted from this opinion, "their duty is to distinguish and not to imitate." The tendency of the courts as a rule generally is to adhere closely and strictly to this rule. They do not seek so much to find differences as resemblances, and therein lies the protection of the legitimate copyright of the proprietor.

The case of Enoch Morgan & Sons Co., vs. Whittier-Coburn Co., reported in the 118 Federal Reporter, page 657, is valuable in this connection. In that case the outside wrapper of complainant's package was marked "Enoch Morgans' Sons Sapolio," and that of defendant's "W. C. Co.'s Sapho." It would certainly require but slight inspection on the part of the purchaser to see that Sapho was not Sapolio. Seen, however, upon the

shelf, the two packages might readily deceive. The court enjoined the use of the Sapho package using the following language:—"A minute and careful inspection will, of course, reveal the fact that it was a different preparation, but in legal contemplation, infringement occurs when the resemblance is such as to deceive the ordinary purchaser giving such attention to the same as such a purchaser usually gives."

One of the noteworthy decisions of the year was that in Warden vs. California Fig Syrup Co. It is important because of the questions involved, the volume of litigation which had been had concerning this well-known remedy, and the finality of the decision, coming as it does from the Supreme Court of the United States, being reported in Volume 187 of the United States report at page 516. It illustrates again the great care which must be used by proprietors to make sure that there is nothing connected with the proprietary article which may be considered as a misstatement or a misrepresentation of facts. The trade is familiar with the suits brought by the California Fig Syrup Company and the varying results of their litigation in different sections of the country. The whole conclusion of the Supreme Court rests upon the finding that the "name Syrup of Figs does not in fact properly designate or decribe the preparation made and sold by the California Fig Syrup Company so as to be susceptible of appropriation as a trade mark." It is clear from the facts as stated in the opinion that in adopting the name, there was no intention to deceive, the original intention being to manufacture a preparation in which Syrup of Figs should be an essential ingredient, and even after it was found that the use of figs in such quantity as to make it an important ingredient was deleterious, still the use of it was continued although not as an essential part, but to give a pleasant taste which might have been effected, as shown by the evidence, by the use of an equal quantity of honey, or some other substance, without changing the character or effect of the combination. It was strongly argued by the distingnished counsel, who represented the complainant, "that the name was a true and honest name when applied to the medicine, and that the wording on the cartons criticised in other cases between the parties, was entirely eliminated long before the appellant flooded the Pacific coast with its counterfeit." But the argument was without effect upon the court. The committee thinks that this case should inforce very powerfully the necessity of great care and caution in the direction mentioned, because where the court holds that there is essential misrepresentation, whether intentionally or otherwise, it deprives the name of the article in question from all protection whatsoever.

This case goes very far, because it is undoubtedly true that the California Fig Syrup Company has always manufactured and used as a vehicle a syrup made from sugar, water and fig, in which figs had always been used in proportions best adapted to the use of promoting the pleasant taste of the combination, and that the company combined with the syrup of figs formed in that way, a specially prepared aromatic fluid extract of senna, from which the griping properties of senna had been eliminated by the original method of manufacture, and it is also true and well known that the complainant had stated to the medical profession, the drug trade, and the public, that the laxative principles of the combination were derived from the senna and not from the fig, and that the figs were used only because of the pleasant taste, which they were known to possess. We understand that the California Fig Syrup Company is not discouraged by this decision, but believes that when all the facts are fully presented a different conclusion will be arrived at, and that it intends to carry litigation through the courts for the purpose of bringing about that result."

There is another element in the case, however, which is of value as the decision of the court of last resort upon a dangerous contention, which has already been successfully made in certain of the State and Federal courts, although it has not been accepted by the courts generally as being the law. It was argued in the California Fig Syrup case that "courts of equity will not intervene by injunction in disputes between owners of quack medicines, meaning thereby remedies or specifics whose composition is kept secret and which are sold to be used by the purchasers without the advice of regular or licensed physicians." This doctrine had the support of some courts of high standing. The Supreme Court in the case now being discussed, however, has denied this proposition in clear language, which should, and will, so far as the Federal courts are concerned, prevent any further decisions on that line. The court, after discussing the argument presented, used the following words: "But we think, in the absence of such legislation courts cannot declare dealing in such preparation to be illegal, nor the articles themselves to be not entitled, as property, to the protection of the law."

In this connection your committee refers also to the case of Samuels Bros. & Co., vs. Hostetter Co., decided by the Circuit Court of Appeals for the Ninth Circuit, and recorded in the 118 Federal Reporter, at page 257. In that case the defendant was found to have simulated Hostetter's Bitters. He endeavored to show by a considerable amount of testimony, that the Hostetter's Company's preparation was a quack medicine and an alcoholic stimulant, and therefore not entitled to the protection of a court of equity, but the court held that the proprietor of such a preparation had the right to keep its formula secret, and the court very properly ad-

ed "the argument that it is a quack medicine, and that it is injurious to the human system, and is contraindicated for some of the ailments which it purports to cure, comes with ill grace from those who imitate it as closely as they may without possessing a complete knowledge of its formula, and by unfair trade sell the simulated article as and for the genuine."

"Many of the members of this assoeiation are interested not merely in domestic, but foreign trade marks, and for that reason your committee mentions briefly certain facts, which have come to its attention recently. Cuba is a field which is attracting the owners of proprietary remedies, and it is well for those who expect to exploit that field in any degree, to know that prompt measures are absolutely necessary to protect their rights in that country. A systematic business of pirating trade marks is going on there and we are informed that there is but little remedy for them. It is stated that grocers cannot fill orders for Ivory soap unless they get it from a man who appropriated the mark for his own production there. Several well known firms have been refused registration of their mark because some sharper had gotten them out in his own name.

"A very interesting and startling bit of news comes from Germany and is reported in the National Druggists for August, 1902, where it is stated that the man in Germany who first registers a trade mark, obtains the right to it even as against the man who originated it, and who has made it a thing of value. In other words, the right in Germany is conveyed by the registration and the man who gets there first and has the government put its seal upon it, obtains the title to the trade mark, regardless of the fact that all there is of value to it has been the result of another's labor. A merchant resident there who had been supplied for years by the California Fig Syrup Company with its product, registered that company's trade mark there as his own. The company, learning of this, demanded the retransfer of it to them. He refused except upon payment of about $12,000. The company consulted their attorney and brought an action to have the registration cancelled. The lower court decided that though the merchant may have acted 'dishonorably,' he had not acted dishonestly' within the meaning of the German statutes and gave judgment for the merchant. On appeal to the Prussian Supreme Court, the court decided in favor of the company and ordered the registration cancelled. There was an appeal from this decision to the German Imperial Court, which decided that the German appropriator had acted entirely correctly, and that he had not been guilty of any impropriety whatever, 'inasmuch as the Imperial trade mark law not only does not forbid such conduct but actually encourages it.' The theory of this is that the law expects every owner to register his trade mark within a reasonable time. Thereupon the company caused to be registered a new trade mark for Germany 'Calfig,' the original, genuine 'California Fig Syrup.' Whereupon the German merchant sent out a warning to the trade against dealing in any Fig Syrup, except that bearing his trade mark, under penalty of a fine of from $150 to $5,000, as provided by the law.

"These references should be sufficient to stir the members of this association who are interested, to prompt and effective action to protect themselves in foreign countries."

It is a satisfaction to your committee to be able to report that with very few exceptions, the decisions rendered in litigation arising upon trade mark claims during the last year, have been such as to protect the property right of the proprietor of such property. Courts have been willing and even alert to strip the claims of infringers of all specious pretenses and disguises, and the decisions have been determined in accordance with two facts: First—Is there a trade mark, or package or label, which is entitled to protection; second—Is the article placed upon the market by defendant calculated to deceive. We said in our report last year that the courts are as a rule consistently adhering to the doctrine that wherever it is really true that parties are attempting to appropriate the good will of others, by unfair competition, calculated to deceive the public, it is the duty of the court to intervene and protect this important class of copyright. We are glad, after another year's review, to be able to reiterate that statement. Respectfully submitted,

CHAS. H. CAMP, *Chairman.*

Oil of Tuberose Flowers.

A. Hesse (Beriche) shows that the essential oil of tuberose flowers undergoes considerable change in the process of extraction. The perfume of the flowers is extracted on the industrial scale by enfleurage. The blossoms are spread upon glass plates, covered with fat and allowed to remain for three days. After having been employed in this way from 30 to 36 times the fat is saturated with the essential oil. The author has compared the oil extracted from fresh flowers and that obtained by the enfleurage process, and finds that the treatment with fat developed the perfume in a marked degree. The fresh flowers when extracted directly yielded only a small fraction of the quantity of oil obtained by enfleurage. The oil from the flowers contained only 1.13 per cent. of methyl anthranilate while the oil produced by the ordinary process yielded 5 per cent. of that ester, showing an increase of 56 times the amount contained in the flowers before treatment.

Unfair Competition.

The case of Allen B. Wrisley Company vs. Iowa Soap Company contains an excellent discussion of what is meant by "unfair competition in trade." (122 Fed. Rep., 796.)

The complainant company manufactured from 1876 until the commencement of the suit a soap branded "Old Country Soap." In 1898 the defendant company began to make soap which it likewise branded "Old Country Soap."

It is a well-known rule of law that geographical terms as well as words in common use to designate a locality, cannot be monopolized as trade-marks. The term "Old Country" is obviously such a term. The Court of Appeals, before whom the case finally came for decision, confirmed the decision of the Circuit Court, and held that the bill could not be sustained for infringement of a technical trade-mark.

The use of geographical or descriptive words to institute or maintain unfair competition may, however, be lawfully enjoined by a court of equity to the same extent as the use of any other terms or symbols, on the ground of unfair competition. Deceit is the basis of suits of this character. The intention to palm off one's goods as those of another, and the use of suitable means to effect that intention, are both essential elements of a good cause of action for unfair competition. Intent to deceive, coupled with actual means calculated to convey a false impression, is necessary. "In searching for this intention, however," said the Court, "and considering the means adopted by a manufacturer in selling his wares, it must be remembered that the intent to institute or maintain a fair competition and the use of reasonable means to effect this purpose, are to be commended and permitted, not restrained. Every manufacturer has the right to sell the goods he makes or owns to the public, to his own customers, or to the customers of his competitors—if he can—at lower prices, and on better terms than those furnished by them, and by these, and by all fair means, to divert their trade to himself, even though his activity and enterprise may destroy the business of his rivals. The only intention the law condemns is the purpose of a manufacturer or vendor to palm off his own goods as those of his competitors, and the only acts from which such an intention may be lawfully inferred are those whos natural and probable effect is to perpetuate such a fraud."

It would follow from this, that the line of demarcation between acts indicative of a lawful and of an unlawful intention runs wide and clear between those which would, and those which would not be likely to induce the common purchaser,when exercising ordinary care, to buy the article of the vendor as the product or property of his competitor. The duty is imposed upon every manufacturer or vendor so to distinguish the article he makes or the goods he sells, from those of his rival, that neither the name nor the dress is likely to deceive the public or mislead the common buyer. He is not required to insure to the negligent or the indifferent a knowledge of the manufacturer or the ownership of the articles he presents. His competitor has no better right to a monopoly of trade of the careless and indifferent than he has, and any rule of law which would insure it to either would foster a competition as unfair and unjust as that promoted by the sale of the goods of one manufacturer as that of another.

In the case under discussion by the court, it could not be shown that the defendant intended to palm off his soap as that of the plaintiff, since he had taken care to distinguish his wrappers from those of the complainant.

Acknowledgment of Remittances Unnecessary.

The Louisville Convention of the National Association of Credit Men devoted some time to discussing the proposition that receipts for remittanees by check were unnecessary, and this idea seemed to meet with general approval, a recommendation to that effect being made.

It is quite easy to see the advantage to the *receiver* of such remittances if he is not put to the expense, time and trouble of sending receipts, but the sender must be able to see some benefit to *himself* before he is likely to surrender his right to an acknowledgment.

It is for the purpose of showing that there is also advantage to the sender in making remittances in such form as not to require receipt that I make the following explanation of the method I have used for some ten years.

This age demands the transaction of business with as small an expenditure of time, labor and consequently of expense, as is consistent with satisfactory results, and for a long time I have thought that a great saving could be made along these lines in the sending of remittances. My thought resulted in the adoption of a system that has proved very satisfactory, and while the ideas are known to many, and are in use by many houses, I believe an explanation of the plan may be beneficial and also aid in furthering the reform of dispensing with receipts for remittances by check.

In sending a satisfactory remittance, two things are essential, viz., a check and a statement of the amount remitted; many houses add a letter of advice.

A check requires writing the date and the name of creditor and amount. It also requires the filling of a stub with date, name and amount, which is copied into a cash book with date, name and amount.

A statement bears the date, name and address of creditor as well as amount.

A letter of advice bears the date, name of creditor and address.

My plan substitutes for the check, statement and letter of advice, a voucher check, consisting of a sheet, 8½ x7 in., one side of which shows statement of the account (no names); this sheet is folded with statement inside. Half the outside, or one side of the folder bears the form of a check, while the other half is a blank for remittance.

In this form the creditor's name is written but once and the date but once.

When the voucher check is filled up, it is entered in the cash book, with date, name and amount, the entry thus taking place of the "stub" of check. The entries are numbered consecutively as they are made, and each voucher as it is entered has the same number stamped upon it, the number being proof of entry.

By the old method, receipts had to be checked up and examined to see that they were a full receipt for the account covered by remittance, also that none were missing. These receipts were then filed.

By my plan, no acknowledgment is necessary, nor is it desired. You rest assured, that in order to get his money, your creditor will properly receipt, not only for the amount remitted, but in full for the account as you intended, and you know with certainty that when your bank account is balanced (in my plan it is monthly) you will get your receipt for the money charged to you by the bank, and no checking up and filing of receipts is necessary, other than filing your checks in numerical order, which would be done in the old way in addition to filing receipts. A reference to any receipt is easy from the number on entry in cash book.

Please note that this is not the "Voucher System" as is generally understood. The voucher check, as above explained, may be used either as a part of the complete voucher system, or as I use it, with old style ledger and cash book.

Let us enumerate the points in which there is a saving in work.

OLD WAY.

Letter of advice	requires name, address, date.
Statement	requires name, address, date.
Check	requires name, address, date.
Stub	requires name, address, date.
Entry	requires name, address, date.

5 names, 2 addresses, 5 dates.

NEW WAY.

Voucher check	requires name, address, date.
Entry	requires name, address, date.

2 names, 1 address, 2 dates.

Saving on each remittance, 3 names, 1address, 3 dates.

In addition there is a saving of examining, checking up and filing of receipts.

This plan is also, I think, a safeguard against altering or "raising" amounts of checks, the accompanying statement rendering this much more difficult.—W. A. Given, Pittsburg, Pa., in Drugs, Oils and Paints.

Personal Name In Trade-Marks.

In the case of the Royal Baking Powder Company vs. Royal (122 Fed. Rep. 337), it appeared that the complainant company had for many years been making and selling a baking powder under the name of "Royal," by which name its product was called for by purchasers. The defendant, whose surname is Royal, commenced the manufacture and sale of a baking powder which he packed in cans similar to in size and shape to complainant's, and having a label similar in color and general appearance, bearing his name in large letters. He also advertised his baking powder as the "New Royal." Having been enjoined from such advertising and from using the labels, he changed the color of the label from red to blue, on which was printed the name "Maxim Baking Powder, without explaining that it was not the well-known product of the complainant company.

The court held that all the facts showed a purpose on the part of the defendant so to use his name as to sell his product as that of complainant, and that while he would not be enjoined from using his name, he would be restrained from placing it on the front label of his cans.

A person has the right honestly to use his own name in connection with his business, even though he may thereby interfere with or injure the business of another, but a court of equity will restrain him from intentionally so using it as to deceive the public—or enable others to do so—into buying his goods as those of another, and will require him, when entering a business in which another is engaged, and using the name, to use every means reasonably possible to distinguish his own business and goods from those of his competitor.

He Was Very Much Put Out.

Some time ago a proprietary house had a $6,000-a-year business manager who was pretty fine, they say. It was a young, vigorous and growing house, and this gentleman naturally had some hard problems to work out in order to get business away from strong competition. He found that by lying on a couch in his office and closing his eyes he could shut out the extraneous things of this world and concentrate his mind on the business to a remarkable extent. He also found that

this plan was most successful in the afternoon, so he put it into practice every day.

Now it so happened that two or three times one of the directors of the corporation called to see him about this time of the day and found him so lost in thought that a good hard hunch was necessary to bring him back to the consideration of trivial problems. And this flinty-hearted director, having reported the thing to four other directors of similar disposition, Mr. Manager was regretfully informed one day that they had decided that they could find a man for a dollar a day who could snore just as loudly, and as a fit of economy had struck them they had decided to try the change.

That was cruel; but it shows the necessity of having a profound regard for appearances.

Foreign Markets For Soap and Candles.

According to the report of the French Consul at Scutari, the value of the port's soap imports in 1901 amounted to 161,052 piastres, of which 96,000 fell to Marseilles works, whose productions are offering strong competition to the soap industry of Corfu. Corfu soap is sold to the retail dealer at 4 piastres 30 paras an oke, and he sells to the consumer at 5 piastres 10 paras. (A piastre possesses a value of about 2½d., and is equal to 40 paras. An oke is approximately 2¾ lbs.) Marseilles soap costs the shopkeeper 5 piastres an oke, and the consumer has to pay 5½ to 5¾ piastres. Native products fetch (factory price) 4 and 5 piastres per oke for first and second qualities respectively. The import from Marseilles is on the increase. The French consular report from Matadi states that the Congo State imports candles from France, Belgium, Holland, Germany and England. A well-known Marseilles brand rules the market. This brand is sold in 1-franc packets of eight candles. As to the Congo State the soap (says the Austrian "Handels-Museum") is in the hands of English, German and French firms. The natives prefer the white and blue soaps as supplied by Marseilles at 1 franc per kilo. Toilet soaps for Europeans come chiefly from Paris and Germany.

To Distinguish Methyl Salicylate From Oil of Wintergreen.

Adrian (El Restauradora Farmaceutico) describes a simple method of distinguishing natural oil of wintergreen from the artificial salicylate of methyl. Five c.c. of the sample are mixed in a test tube with an equal volume of pure concentrated sulphuric acid. Under these conditions the artificial compound shows no rise in temperature and acquires only a slight yellowish tint, while with the natural oil there is a marked rise in temperature and the mixture assumes a rose-red color gradually passing into darker shades.

PATENTS AND TRADE-MARKS.

The following list of recent Patents and Trade-Marks is reported by W. G. HENDERSON, Solicitor of American and Foreign Patents and Trade-Marks, Norris Bldg., Washington, D. C. A copy of any of the following will be furnished by him for 15 cents.

PATENTS.

736,706. Soap Press. Charles Drolet, assigned to Fels & Co., Philadelphia.

738,274. Making perfumes and disinfectants. Jean Bardin, Brussels, Belgium.

TRADE-MARKS.

41,039. Washing Compounds. Thomas H. Tabor, Ellijah, Ga. The words "New Idea."

41,042. Perfumery. Colgate & Co., New York, N. Y. The word "Viodora."

41,043. Soap. Colgate & Co., New York, N. Y. The word "Viodora."

41,110. Soap for Polishing Metals. Societe Generale Des Cirages Francais, Paris, France. An isosceles triangle having rounded corners and within it a small triangle and the word "Triangle."

41,112. Candles. De Roudaix, Oedenkoxen & Co., Borgerhout, Begium. The word "Herradura" and the monogram "M F A Co" within a rectangular border and having scroll-lines underneath the word "Herradura."

41,113. Candles. De Roubaix, Oedenkoven & Co., Borgerhout, Belgium. The word "Eureka," together with the representation of a horseshoe.

LABELS.

10,331. Title, "Our Soap." (For soap.) Max Escher, Buffalo, N. Y.

10,362. Title, "Bender's Liquid Antiseptic Soap Perfumed." (For Liquid Antiseptic Soap.) Lawson C. Funk & Co., Philadelphia, Pa.

Silex.

In these days when there are so many cheap grades of silex on the market, and also various other articles sold as silex which are not, soap manufacturers should carefully look into this subject. There is a great difference in silex. Some is simply a natural product dug out of the ground and this material is of an absorbent nature, often contains impurities, and will not run even in grade.

The silex manufactured by The Bridgeport Wood Finishing Co., of New Milford, Ct., New York and Chicago and Philadelphia, is produced from the pure rock crystal quartz which is ground under water, floated, precipitated, dried and bolted, thus insuring absolute evenness of grade, and the very best silex obtainable.

This silex possesses peculiar cutting properties, which make it unequalled for scouring soaps, and if a

little finer grade is used for toilet or laundry soaps, it makes a cake which holds its shape much better and a better soap.

Vacuum Soap Drying.

In sending us a new illustration of their soap drying apparatus (see advertisement), the American Vacuum Drying Machine Co. say that they are now building vacuum tunnels, 5 feet and 8½ feet in diameter, wherein cars with frames on them are operated on tracks, to facilitate handling the soap. The tunnels have heating coils in place of shelves and are lower in price than the shelf machines; the drying takes place in an hour or two. The manufacturers further state that the saving of time, space, rent and rapid handling of the soap very soon pay for the first cost of the apparatus, and that they are ready to guarantee that the latter will dry soap in one-third of the time now required by the fan system (and this includes a liberal margin yet for themselves, as a precautionary measures). These drying tunnels can be built practically 100 feet long, if required for a large capacity.

AROUND THE SOAP FACTORIES.

News-items sent us by our readers will find prompt attention in this column

The Allen B. Wrisley Co. of Chicago, is preparing to resume business in the near future.

The old R. W. Bell soap factory at Buffalo, N. Y., has been sold to Charles F. Miller of Lancaster, Pa., who will probably run it as a branch factory at the last named place. In fact it is stated that C. G. Engle, the treasurer of the company, will manage the Buffalo plant for the firm, and that the latter will enter into a large advertising campaign. This factory passed out of the hands of the Bells nearly ten years ago and became the property of the Merchants' Bank which later was absorbed by the Manufacturers and Traders' Bank. These owners had leased it to M. F. Windsor & Co., who until this last change operated it, though not to its full capacity. Thirty years ago, when the factory was built—a five-story structure—it was one of the largest and best known in the country. Its reputation under its founder became so thoroughly established that it is said there are many retailers to this day who are not aware that the old firm is out of existence.

Incorporated: "Our Soap Company," Buffalo; capital, $100,000. Directors, D. C. Meyers, Stanislaus Lipowicz and G. G. Buse, Buffalo.

The New Process Soap and Perfume Company of Cincinnati has been incorporated by F. M. Dillie, D. A. Phelps, Ferd A. Bateman, Wm. P. Schuster and M. D. Osgood, with a capital of $10,000.

The Rome (N. Y.) Soap Co. is proud in the possession of another 30,000-lb. kettle.

The Union Soap Works at Wilkes Barre, Pa., is erecting a new building for a soap factory.

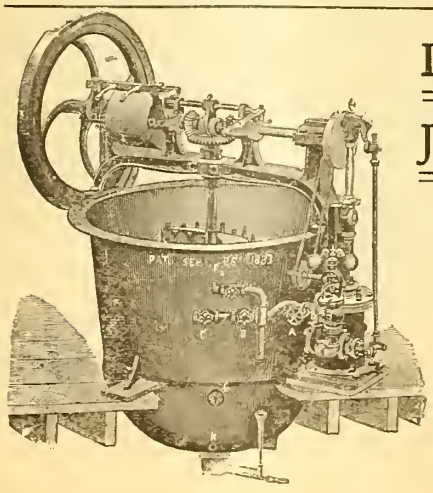
The N. K. Fairbank Co. is erecting an addition to its soap works in Chicago, 72x100 feet, two stories.

Fay Bros.' soap works in New York City were entered by burglars recently, who blew open the safe and secured 23 cents in cash. It is a sad story.

G. H. Kingdon, buyer for Joseph Crosfield & Sons, Ltd., Warrington, England, is expected on a visit to this country about the end of this month.

Adam Duncan's soap factory at Akron, Ohio, is dismellful to his neighbors, who are making a strong effort to compel its removal.

John Stanton, of Salem, Mass., is dead at the age of 88 years. He was born in Strafford, N. H., and was a soapmaker by trade. He leaves a widow and sons, Al-



Dopp's Patented Seamless Steam Jacketed Crutcher WITH OR WITHOUT ENGINE.

Tried and true. In use all over the world. A money saver. Write for catalog and price list "A" of Soap Makers' Machinery and Steam Jacketed Apparatus.

H. W. DOPP CO., 1300-1310 Niagara St., BUFFALO, N. Y.

fonso A., John W. Charles H., and George B. Stanton, and a daughter, Mrs. Lucy Upton.

The Sacramento (Cal.) Soap Co.'s works had a fire in the last days of August, which fortunately was soon controlled.

Liebler Bros.' soap works at Atlantic City have been destroyed by fire.

The Barrett Manufacturing Company sustained considerable damage last month by fire which broke out in its tar paper department.

Still another fire started in Whitelaw Bros.' establishment in St. Louis, Mo., on September 8, and caused a loss estimated at $12,000.

Beaumont, Texas, September 6.—The talk of a soap or tripoline factory here is being revived by the visit of the promoters from St. Louis. The proposition is to utilize deposits of a mineral called "tripoline," found in Missouri near St. Louis, and to haul the raw material to this city, where the factory is to be located. The movement is being backed by the chamber of commerce, but Secretary Woodhead says that organization has not yet been effected and will not be until such time as a block of stock is subscribed by local capitalists, which has not been done up to the present time.

L. B. Robinson, Centreville, La., has organized a company which will erect a soap factory.

The Century Chemical Company of New Haven, Conn., filed articles of incorporation. The company will manufacture and deal in soaps and chemical preparations.

The Oriental Paint, Soap & Chemical Company, capital $12,000, has been incorporated by Hirsch, Dashey & Julius April, New York, and L. Mitchell, Brooklyn, N. Y.

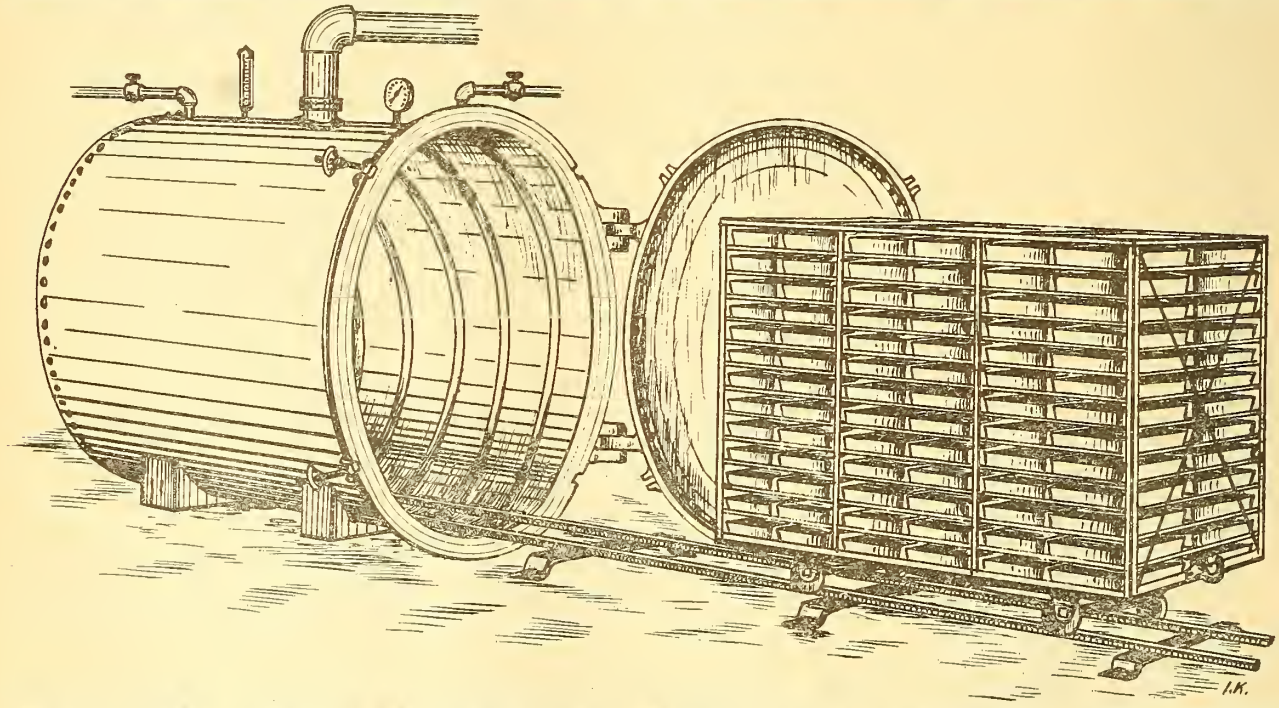
Nathan Swift, eldest son of L. F. Swift, of Swift & Co., was accidentally killed by being struck by a ball in a game of polo. The sudden death of so promising a young man has elicited universal sympathy.

Additions to Our Brand List.

347 Lockwood Soap Co., Kansas City, Mo.

Marigold 106
Sunburst 106
Gasene 106
Yellowstone 106
Top Notch 106
Milo 106
Polar Bear 106
Brightshine 106
Home Pride 347
Ammonaptha 347
Tar Egg 347
Cream Naphtha 313

VACUUM DRYING APPARATUS--FOR SOAP, &c.



AMERICAN VACUUM DRYING MACHINE CO., NEW YORK OFFICE 120 LIBERTY ST.

SUPPLEMENTARY LIST

OF THE

BRANDS OF SOAP MANUFACTURED IN THE UNITED STATES

Including also the Brands of Foreign Manufacture Registered as Trade-Marks in this Country.

NOTE: This list is compiled with the greatest possible care, but the publisher does not assume any responsibility other than to correct and to complete the list according to data obtained from official sources or furnished by the trade. Brands registered in the patent office as trade-marks or labels are given with the name of the party registering same. Brands or names marked * are those which were found to be used by more than one firm or the owner of which could not be ascertained. ☞ SEE THAT ALL YOUR BRANDS ARE ENTERED IN YOUR NAME.

3—Liberty Mfg. Co., Chicago.
344 Home Soap Co., N. Y.
345 Columbia Ref'g. & M'f'g Co. Ltd, New Orleans.

Abrado, Floridine Mfg. Co., New York.
A Happy Home 4
Alabama Tar 3
All-need it 286
Amazon Cocoa 337
Amber Rose 346
Anchor Castile 3
Angelus 54
Antelope 3
Antillia 2
Anty Up 340
Apple Blossom 337
Atoka 346

Baby Mine 8
Baunock 3
Beauty Belle 151
Beaumont's Shaving 346
Beef Oil 340
Bell's Brown 3.3
Bell's Naphtha 343
Ben Hur 3
Bicycle 3
Big Glycerine 3
Billy-Goat 340
Blossom Bouquet 3
Blue Chip 340
Blue Cond 2
Blue Coco 340
Blue Family 340
Blue Monday 340
Blue Olive 340
Boast 3
Botica Francisca 3
Bouquet Chic 3
Bouquet Reverie 3
Brazilian Bath 3
Bunny—Hewitt Bros. Soap Co. Dayton, Ohio.

Calcutta Castile 337
Calumet 3
Camille 3
Ceske Slovonsky 3
Ceske Polski 3
Chlorine 340
Cleaneasy 286
Climax Chip 54
Cloth Pin 340
Cloths Pin 340
Coa Nut 346
Coca Foam 3
Columbia 3
Couto & Elroy Castile 3
Credential Shaving Stick 16
Crown Princess 337
Crystal Honey 346
Crystal Sulphur 3
Crystal Palace 3
Crystal Transparent Tar 3
" " Carbolic 3
Cubau Rose 3
Cuta Alba 3
Caltoderma Medicated 3
Cycle 3

Dactylis 11
Dermicura 327
Diadem 3
Druggist's Transparent 3
Dr. Allens Medicated 3
Durango Best, Durango (Colo.) Soap Co.

Elk's Bouquet 346
Empress Eugenie 115
Empire Geranium 337
Eucryl Eucryl Ltd., Hull, England.
Eureka 3
Evergreen 286
Expert 286

Facine 340
Fairbank's Primrose 2
" Scouring 2
" German Fam. 2
" Glycerine-Tar 2
" Mottled Germ'n
" Olive 2
" Navy Blue 2
Federal Family 1
Floral Feast 115
Flannel 2
Flip 345
Force, Cincinnati Soap Co., Cincinnati, Ohio.
Fragrant Honey 2
French Violette 3
Frog 340

Gem Wash, Compound, Clara Pearce, Philadelphia.
Georgia Oleine 29
Geronne Violette 3
Geyser 343
Giant 3
Gloriola 29
Glycerated Tar 346
Glycerderma 3
Golden Rose 3
Gold Seal Soap Flour 340
Goodhair, Goodhair Remedy Co., Newark, Ohio.
Green Olive Chip 340
Green Palm 340
Green Seal Chip. 340
Gusher 340

Hard Maple 155
Heliotrope Blanc 3
Heliotrope Ideal 334
Helix 54
Hi Lo 96
Home Castile 3
Horse Oil Harness 340
Hots Springs Bath 3
Hy-Lo 96

Ideal Bouquet 3
Ideal Family 3
Idyllwild 54
I-Lika-U 286
Ilo-Ilo 340
Imperial Crown 3
Iroquois Maiden 115

Jack & Jill 341
Jack Pot 340
Japanese Bath 3
Jeroue Bouquet 3
Jewel 2
Jus de Framboise 3

Kaska Bouquet 346
Kazan 343
Kimola, Bell Mg. Co., St. Louis, Mo.
King Solomon's Rock Oil S. Mnross Jenkins, N. Y.

Lakeside (Scouring) 2
La Mariposa 54
Lamsuet 3
Lasco Napthol 54
Last Long 286.
La Virtho, John S. Nichols, New York.
Le Fameux 16
Le Fameux Rose de Seville 16
Le Fameux Violette de Sevill 16
Le Fameux Peau d'Espagne 16
Le Fameux Jockey Club 16
Lemola Toilet, Lemola Soap Co., Los Angeles, Cal.
Lemolive 54
Lemoniue, E. H. Kraut, Cincinnati.
Letince Cream 3
Libertys London Transparent 3
Liberty's Quartette 3
Liberty's Gennine Bouquet 3
Limberiue, E. A. Warren, St. Paul, Minn.
Lion 2
Lisette 3
Little Sweetheart 346
Llama 3
Long Shot 345
Lotus Bouquet 3
Lotus Honey 3
Lotus Glycerine 3

Madeira 16
Madeira Almond Cream 16
Madeira Cucumber Cream 16
Madeira Lettuce Cream 16
Madeira Olive Cream 16
Marjorie 337
Marveline 300
Marvelo, National Process Co, Rochester, N. Y.
May Field Bouquet 346
kina Skin 346
Maxine Elliott 337
Medical Lake 3
Medicated Witch Hazel 3
Mentholatum Corn Oil S. 169
Mexicano 54
Michigan Family 2
Mildred 337
Millens Cream 3
Millens Toilet 3
Millens Antiseptic 3
Millens Tar 3
Miners Tar 3
Milk Bath 3
Monroe 3
Moss Rose Borax 3
Mox-Nix 340

Naphtha Toilet 340
Naphthal 340
Napthol 340
Naptholive 340
Naptha Washing Powder—Hunt Mfg. Co., Cincinnati, Ohio.
Natural Gas 340
Next-To. Phoenix Chem'l Co. New York.
Nolabor 340
Northern Star 3
Noxlabor 340
Noxwork 340
No. 81 White Rose Glycerine 3
No. 3725 White Rose Glycerine 3
No Name 3

Old English Brown Windsor 346
Old English Blue 3
Old Linen 3
Old Time Tar 3
Olive Bath 3
Orinoco 337
Orris Unscented 337
Otis Lightning, C. H. Waterhouse, Essex, Conn.
Our Baby's Bath 3
Our Own 3
Our Special 3
Oxolive 340
Oxigen 340
Ox Oil 340

Palmo 340
Palm Oil S. Powder 340
Palm Soap Flour 340
Parisian Toilet 54
Passion Rose 298
" Violet 298
" Pink 298
" Lily 298
Peace 340
Peach Blue 340
Peerless Country Club 337
Peerless Forest Violet 337
Peerless Lily of the Valley 337
Peerless New Mown Hay 337
Pen Yen 340
Perfecto 121
Plantol Lever Bros., Limited Port Sunlight, England.
Poncine Erasive 3
Pony Up 340
Popular Blossom 3
Premium, Davenport (Iowa) Soap Co.
Premium W. Powder, Davenport (Iowa) Soap Co.
Preventionette, Willard Chemical Co., Malden, Mass.
Pure Large Oval 3

Queen Complexion 3
Quick and Easy 56

Radiant Violet 3
Red Raven 346
Reve d'Amour 3
Rex Cremo 340
Rex Family 340
Rex Liquid Soap 340
Rexolene 340
Rexolive 340
Rockford Scouring 2
Romola 3
Rose d'Or 3
Rose Glycerine 3
Rose Immortelle
Royal Lily 16
Rubbo, Lever Bros., Limited, England.

Safeguard Carbolc 53
Samson's Transparent Tar 3
Sandalwood 3
Sani-Tari Skin, Citizens Wholesale Supply Co., Columbus, O.
Santa Rex Castile 2
Sauer's Complexion 3
Savon White Rose 3
" Jockey club 3
" Violete de Parme 3
" Hyacinth 3
Savon Carnation 337
Savon Heliotrope 337
Savon Lilac 337
Savon Queen Regent 337
Savon Quo Vadis 337
Savon Rose Marechal Niel 337
Savoy Alpine Violet 337
Savoy Carnation 337
Savoy Jockey Club 337
Savoy Primrose 337
Sayf Syde, Sayf-Syde Soap Co., Cincinnati.
Sentinel 340
Sentry 340
Shampoo Tar—Brown Soap Co. Dayton, O.
Snow Violet 3
Solos Laundry, Nelson Mfg. Co., Iowa City, Iowa
Sorosis 340
Stainoff, D. M. Steward Chattanooga.
Stainilgo, Kendall-Davis Co. Boston, Mass.
Star Mottled 2
Star Tar 286
Success Scouring Sand Soap Tacony Soap Co., Phil'a
Superior Transparent Glycerine 3
Sweet Blossom 2

Tew-Fer 26
Tode 340
Tonla Toula 334
Town Market 3
Trash Mover 286
Twin 2
Twin Rose 3
Two Jacks 340

Uncle Sam's Floating 120
U-Lika-Me 286

Vegetal Bouquet 3
Vestal Carnation 16
Vestal Lilac 16
Vestibule 3
Vinela 3
Vinola Cream 3
Violette Grandlieur 334
Violette Revee 3
Violet de Parme 337

Wego 96
Wendela 3
Whale 3
White Fairy 2
White Pine Castile 344
White Rose Glycerine 3
White Rose Honey 3
White Saxony 3
White Wonder 346
Windsor 2
Winner 29
Witch Hazel Bath 3
Witch Hazel Bouquet 3
Witch Hazel Shaving 3
World's Fair 2
World's Wo k 53

Yellow Dog 340
Yellow Palm 340
Yellow Rose 3

Zingarella 3
Zo-Zo White Tar 3 6
Zanette 3

The Latest Complete Edition of Our

List of Soap Brands

was published on Jan. 1st, 1902. All new brands and changes that have been reported since that date are contained in the "Supplementary List" published on another page of this paper.

DRUGS, OILS AND PAINTS,

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For Sale: Glass moulds (and iron moulds to make them) for moulding cheap toilet soaps For particulars address: U . G., care American Soap Journal, Milwaukee, Wis.

For Sale: A modern soap factory with best facilities for manufacturing on an economical basis, located in a fine city in the middle west, that can not be excelled for market of product, or getting raw material, also best social and educational facilities. Owner wants to retire on account of failing health; will sell on good terms, or with the right party may retain an interest in same. This is an opportunity to secure a bargain in a money making business. Address: "E. B. J." care of American Soap Journal and Mfg. Chemist.

The American Soap Journal & Manufacturing Chemist.

A MONTHLY JOURNAL OF THE MANUFACTURING CHEMICAL INDUSTRIES.

DR. HENRY GATHMANN, Publisher. 2707 North Ave, Milwaukee. **MILWAUKEE, WIS., November 1, 1903.** VOL. XIV. No. 3.

THE AMERICAN SOAP JOURNAL AND MANUFACTURING CHEMIST.

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OFFICE OF PUBLICATION:

2707 NORTH AVENUE, MILWAUKEE, WIS., U. S. A.

The AMERICAN SOAP JOURNAL AND MANUFACTURING CHEMIST is devoted to the interests of all manufacturing industries of a chemical character, and is an absolutely independent publication. It is the only newspaper of its kind in America and has also a large foreign circulation.

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Communications on industrial subjects, news items, and any information suitable for printing in these columns, are solicited and will have due attention.

Readers in search of machinery, supplies etc., not advertised in these columns, are invited to write us and we shall endeavor to supply the information.

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DR. HENRY GATHMANN, Publisher,
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The American Bar Association at its recent meeting made a commendable attempt to secure more adequate protection for trade marks, by recommending a new bill designed to facilitate their registration, as well as prosecutions for infringements. A committee was also appointed, to urge Congress to pass the bill. The latter provides not only damages for infringements, as at present but also imprisonment in cases of willful imitations of trade-marks.

In renewing his subscription for this paper, Mr. Alexander Finlay of Belfast, Ireland, writes on a letter head bearing the imprint: "Established by Alexander Finlay, 1798," and this reminds us that some years ago we noted the one-hundredth anniversary of the establishment of this firm. If there is a firm of soap manufacturers anywhere, looking over a longer course of uninterrupted prosperity, it would no doubt interest our readers to hear of it.

But speaking of records, in its own way a certain firm of soap manufacturers certainly beats everything we ever heard of. To-wit, there is an esteemed subscriber for this paper whose name and address is: "Hell & Rettig, Aguas-Calientes, Mexico."

Mexico is generally considered a pretty warm place, and Aguas-Calientes is Spanish for Hot Waters; Rettig is German for radish, and Hell is English for a hotter place even than Aguas-Calientes.

For a "warm" friend of the SOAP JOURNAL this firm is not easily outdone. But if any firm can beat this, we should be curious to learn of the details.

All the large soap makers in Japan had a conference in July last, to talk over their mutual interests. The soap industry is an increasing one in that country, and Mr. S. Coeking, who is spoken of as its pioneer in Japan, writes us that he may send us an account of how they do things in that part of the world. We are sure it would be appreciated by our readers.

We gladly acknowledge the receipt of two replies to our question of last month, as to who makes "soap sheets." We have accordingly answered our original enquirer, and hope a useful purpose is served thereby.

"How one thing brings up another," said one man. "Yes; an emetic for instance," said the other.

We are reminded of this ancient joke by the thoughts arising from the "soap leaf" incident just mentioned. The said thoughts are about like this:

During the thirteen years, and more, that we have been publishing this paper, we have been asked so many questions by subscribers that we could not answer quite to our own satisfaction, that at three distinct periods of this paper's existence we were led to start a regular column of "Questions and Answers," in which all subscribers could publish the questions which they wished answered, and in which all who could answer such questions might exercise their philanthropy. But each of these three times that we inaugurated such a column, we gained a remarkable experience, i. e., to-wit: Not only were replies to questions quite scarce, but even questions ceased coming the moment we made them public—though, as all old readers know, the identity of enquirers was never revealed by us. In short, while we are nearly always swamped with requests for special information, we need only inaugurate a really promising and useful "Questions and Answers Department," and, presto—nobody wants to know anything.

That is why three times in thirteen years our Questions and Answers column died—from sheer inanition. But no sooner is it quite dead, when its ghost begins to haunt our sanctum again, in the shape of renewed questions.

But we know now how to "lay the ghost"; after this, whenever requests for special information become too numerous to be taken care of, we shall revive that really useful department and—discover for the fourth time that on second thought nobody wanted to know anything. Then we can go fishing for a week or two.

The advance in the price of rosin, especially in the higher grades, which began in September, was predicted some time ago in a private letter received by us from Mr. E. Moulié, who had, however, promised us a special article on the subject for our October SOAP JOURNAL. In place of it we received, too late for use in our last issue, a letter from a physician in Jacksonville, saying that Mr. Moulié was ill and could not write us for the time being. The physician adds: "I have read occasional numbers of your Journal with great interest. Mr. Moulié is to be commended for his efforts in behalf of the naval stores industry, and the increased adoption of the cup system for gathering the gum has been much advanced by his efforts."

It is a peculiar thing—this circulation of a trade paper. In the past month, for instance, we have added to our subscription lists three separate public institutions having absolutely no obvious connection with the soap business; just why this paper is wanted in these institutions we cannot guess, but it will fill a useful purpose certainly, or it would not have been ordered. Also one semi-public museum and one educational college have asked us to supply their library with a copy (complimentary) regularly. One physician writes that he has frequently read the paper with interest. Hardly a mail passes that we are not asked for sample copies by all kinds of utter strangers. In fact, we hardly know where the SOAP JOURNAL does not go, and every month brings new surprises.

One of the strangest methods of "circulating," however, was brought to our attention some months ago. A man just beginning to be interested in the manufacture of soap, and knowing as yet nothing whatever of the SOAP JOURNAL, *found* a somewhat dilapidated copy of it in a street car in New York City. *Our address was missing from the paper*, but an advertisement of something he wanted was still in the paper, and so he went and bought the goods advertised and from the advertiser secured our address and now is a subscriber.

Indeed, a few weeks, or a few days even passed in the office of a live trade journal, would be a revelation to many who think the circulation of such a paper to be restricted to a certain class or number of readers. Many papers we send out for special reasons are undoubtedly wasted, but every now and then they are the beginning of important connections following.

A letter reached us the other day from England, addressed to the "Soap Journal, Milkwaukee, Wis." Query: Was our English friend not sufficiently acquainted with Milwaukee, or does he know it so well?

The projected meeting of the Toilet Soap Association which, as reported last month, was to have been held on October 23d, was called off a week before that date and the proposed reorganization has therefore not been effected.

The main reason for this failure to come together, was the fact, as we understand it, that at least three of the largest toilet soap manufacturers of Chicago gave notice that they would not attend the meeting, and without their co-operation it was useless to proceed. It seems rather significant that this refusal should have come—of all cities—from Chicago, where soap association matters had heretofore proved rather more promising than in most other places. However, the meeting was not to take place, and as each such failure adds a new obstacle to future success, it is greatly to be regretted that an active, useful association was not perfected

at this time, as it is more doubtful than ever now, if a renewed attempt in the near future, in the same direction, would be likely to fare better.

It is a pity.

We are tempted to add some further remarks to the foregoing; but as it takes something besides funeral oratory to galvanize a corpse into life, there is at present "no use in talking."

A German Mining Journal is authority for the statement that a new compound of aluminium with other non-explosive bodies has been invented, which is free from danger in handling, and yet equally powerful as compared with the strongest dynamite. An 18-23 mm. cartridge of the new compound is said to have the same explosive power as a cartridge of gelatin-dynamite of the same diameter, and yet there is said to be absolutely no danger whatever in its transportation, nor susceptibility of it to frost or high summer heat. Trials carried on in Westphalian mines for several months are the basis of the report.

If the foregoing is really true, it will not fail to have an important effect in the future on the value of glycerine, as the manufacture of dynamite—now consuming immense quantities of glycerine—must become greatly restricted if a better explosive for mining purposes is really discovered. Even as it is, dynamite has a number of sharp competitors.

"Borax soap will remove all kinds of spots from floors, carpets, painted woodwork, etc. It is easily made by saving all the bits of soap which accumulate in the household, and boiling these down with a few teaspoonfuls of borax until it becomes a jelly-like substance."

The above is a clipping from the N. Y. Post; whether looked upon as an advertisement for borax or as one for some *respectable* brand of borax soap, the item is not a bad one. Apart from its advertising value, of course, it is pretty useless.

A special cable despatch (!) to the N. Y. *Sun* from London two weeks ago conveyed the tremendous intelligence that a sailor had just published an observation of his in the London *Times*, to the effect that by the use of soap on the body, "the natural oil given by the Almighty to protect the body" is removed, thus exposing the poor denuded body to rheumatism, chills, disease and dirt."

Fortunately, for the toilet soap industry, a number of "physicians, dermatologists, complexion specialists, and recruiting sergeants" have promptly come forth and given evidence declaring that soap is an absolute necessity of life under modern conditions.

So cabled from London to New York, A. D. 1903.

Several shipments of what purported to be "pure olive oil," coming from Marseilles and Florence, have been debarred by the Department of Agriculture.

We have enough cottonseed oil of our own.

We have just finished reading the specifications of an English patent, granted last month to "John Barker, 142 Chatham St., Liverpool, Gentleman." The patent covers the saponification of mineral oil, and is fully as ridiculous as most patents of this nature have been. (For the benefit of those interested we may add that it is dated August 14, 1903, and has the number 15,619.)

There was, however, one point of compensation which richly reimbursed us for our trouble of wading through this specification, and that was the beautiful wording of one single and brief sentence at the end of the long specification, saying: "The whole of the oil is practically saponified or quasi-saponified." Just think of it!

Heretofore the practical and the impractical soapmakers, as well as the ultra-scientists, have known only of oils being saponified either "perfectly" or "imperfectly." There seemed to be no middle ground.

It was reserved to a professed (or confessed?) "Gentleman," to show practical soapmakers and scientists the limitations placed upon their mental acumen by the lack of that superior culture appertaining to a "Gentleman." There is a middle ground, an oil may be "practically saponified" or "quasi-saponified," and such a "quasi-saponified" mineral oil makes a cheap soap—(provided you use in connection with it a certain proportion of cocoanut oil and lye——).

Every month in the year there come to us one, two, or three reports from small towns here and there, containing mysterious hints that some (unnamed) soap factory of large dimensions, employing, say 200 or 300 men, will leave the state of New York, or Pennsylvania, or Ohio, and take up its future abode at this or that cross-roads junction. We have long ago learned to carefully deposit such reports in that corner of the waste-basket where they are apt to do the least harm. Only now and then some variation of the old theme catches our eye.

For instance, this month, the blooming burg of Centerville, Ill., is happy in the knowledge that the Illinois Soap Co. is ready to remove its large plant there. A search through our subscription lists, old and new, and through several directories, as well as much scratching of our editorial head, has failed to disclose an "Illinois

Soap Co." anywhere. And that brings us to the real point of our present item: Where are all the soap factories located that keep their two or three hundred workmen moving about like a large circus?

Probably, as Lord Dundreary used to say, "that is one of those things no fellow ever found out."

Cleansing Power of Soap.

EDITOR AMERICAN SOAP JOURNAL:

I promised you a commentary on Mr. Hillyer's researches on the action of soap, as published in August, September and October JOURNALS under the heading: "On the Cleansing Power of Soap," and "A Study of Soap Solutions." However, I will not attempt an extended review of this elaborate work, which is too deep for me. I cannot catch on to the curves illustrating those articles, nor do I see any close connection between internal, superficial and plain all around viscosity, high and low surface tension, catenoids and Rupert's drops, with the cleansing power of soap. I have no doubt that everything Mr. Hillyer has discovered in soap solutions is so, and regret my inability to fully understand and appreciate his researches. In the beginning, Mr. Hillyer's article seemed fairly clear, and I had hoped that after reading the whole, it would be more so, but in this I was disappointed. Mr. Hillyer devotes much space to confirm the findings of Plateau and Quincke, regarding the high viscosity, low surface tension and low cohesion of soap solutions; these properties he says, are very essential to the production of foams and emulsions.

Unfortunately, there are exceptions, and liquids with comparatively high viscosity and low surface tension, like beer and milk, which do foam, are nevertheless no detergents; nor does Mr. Hillyer explain what role foam plays in the process of cleansing, anyway.

The article, "A Study of Soap Solutions," relates entirely to experiments consisting of dropping soap solutions through kerosene, which the author tells us will be evolved into a method for indicating the value of soaps, soon to be published. I look forward with much curiosity to this new method for determining the value of soap, and hope it will not only be practical and reliable, but that Mr. Hillyer will also "show us" how to make the best soap, if possible, at a low cost. I infer such soap must possess maximum viscosity with minimum surface tension.

In citing the work of others on the action of soap, Mr. Hillyer starts off with Chevreul, which is quite proper and in keeping with the reverence due to that great master, but Mr. Hillyer does not come down sufficiently to modern times, and I regret particularly that he does not mention the investigations of Dr. Stiepel, as published in Seifenfabrikant, 1901, Nos. 47, 48, 49 and 50; which for clearness and plausibility appear ahead of anything published on this subject before or after. In articles written by my brother and self, and published in the SOAP JOURNAL ("Are Lubricants Detergents?"), and in Seifenfabrikant ("Zur Frage: Wie wirkt die Seife beim Waschen?"), we commented favorably on Dr. Stiepel's work, and then drew attention to the lubricating properties of soap, which undoubtedly play a very important role in the process of cleansing. Mr. Hillyer says in his article: "It has been suggested that the soap itself or the alkali of hydrolysis acts as a lubricant." If this refers to our articles, then Mr. Hillyer misquotes us; nowhere did we say that alkali acts as a lubricant.

Perhaps we will write in the near future a supplementary article on the close relation and similarity of action of the lubricants and detergents, with remarks on the hydrolysis and dissociation of soap in general.

Very respectfully,

A. MELZER.

Mint.*

Its Early History and Modern Commercial Development.

BY A. M. TODD.

Mint was among the plants first recognized as of value by the ancients, and by them given a specific name; and many interesting references to it are found in the earliest known literature. Its extreme antiquity is attested by the fact that it was known in Greek mythology, where it was given a birth both romantic and immortal in connection with the amors of the gods. Mintha, a beautiful girl, had won the affections of Hades (Pluto), and in a fit of jealousy was transformed by Ceres into the plant which was then given her name; from which followed the Latin "Mintha," "Mentha" and "Menta." Evidencing the widespread belief that in this legend there still exists under this same name in Pylos, the hill, Mount Mintha, upon which the transformation occurred; and at the base of the mountain was in ancient times a grove dedicated to Ceres and a temple to Hades. This romantic tradition is recorded by several classic writers, among whom are Strabo (Geographia, liber 8), Julius Pollux, and others.

Probably the earliest reference to mint preserved in the writing of the ancients, is the works of Hippocrates, the most celebrated physician of antiquity, born about B. C. 460, who among other things mentions it as an excitant to amor. A very interesting reference is found in the writings of Aristotle, born B. C. 384, who mentions its well-known cooling and soothing effects as well as its antiseptic properties. Theophrastus, the successor of Aristotle, in his "History of Plants," also mentions

mint, but under the newer name of "Eduosmos" (fragrant, or sweet-scented). We are told by Strabo and other classic writers that this new name was given it since many of the Greeks desired the plant to have a name suggesting its fragrance, and the new name seems to have been adopted by most of the later Greek classic writers as well as in the Greek Gospels of Matthew and Luke. Pliny, however, in his "Historia Naturalis," states that the Romans preferred to retain the more romantic and ancient name.

One of the most interesting references to mint in ancient writings is the recorded utterance of Jesus, where, in Matthew xxii., 22, he says: "Ye tithe the Mint, Anise and Cummin." The same passage in Luke xi., 42, reads: "Ye tithe Mint and rue and all manner of herbs." In both the original Greek Gospels the latter name "Sweet-scented" is used. It is worthy of note that mint is the only herb mentioned in both Gospels, and it would hence seem to be the most prominent of all known herbs; and the fact that the laws provided for taxes to be paid in it would indicate that it may have been regularly cultivated in Palestine at that time.

A most interesting account of mint is given by Pliny (23-79 A. D.), in his "Historia Plantarum (liber XIX., cap. 8), also in liber XX., cap. 14. Among other things he mentions the means of propagation; that on account of its pleasing odor it was used in banquets, and notes also its well-known medical virtues. Ovid ("Fasti" 2) speaks of mint as having magical power, "Obsutum menta torret in igne caput."

Unfortunately neither time nor space permits more than a very brief reference to the writers following the Christian era. The great physicians, Galenus[2] (liber VI.), and Celsus (liber IV.), who both flourished in the first century; Dioscorides, in the second century (liber III., cap. 35-36); and the celebrated Arabian, Avicenna (A. D. 980-1037); all were well acquainted with mint and recorded the virtues for which it is today prized. In his celebrated book "Liber di Arti Distillandi" (published in 1500 and which was followed with enlarged editions with very many rare plates illustrating the art of distillation and pharmacy), Braunschweig mentions five species of mint, but it is difficult to recognize them all with precision. He speaks of them as M. Crispa, M. Aquatica, M. Rubra, M. Balsamica and M. Serenica.

The first printed allusion to mint in the English language which I have yet found is in the famous "Breeches" Bible, printed in London in 1597 (which derives its name from the rendering of Genesis iii., 7, "They sewed figge-tree leaves together and made themselves breeches.") In this edition the utterance of Jesus already referred to in the Greek, reads "Ye tithe Mynt and Annyse and Cummyn." In the following year (1598) appeared the splendid folio edition of the works of Matthiolus,[3] which included the writings of Dioscorides, etc., with annotations. In this work seventeen species of mint are noted, and nine important species engraved, viz: Mentha, Mentha Altera, Mentha Crispa, Mentha Graeca, Calamintha, Calimintha magno flore, Calamintha Montana, Calamintha aquatica.

Gerarde's "Herball"[4] (London, 1633) gives a very interesting description of the various species known to the writer (pages 679-686), with engravings of nineteen varieties, including the "calamints." These are as follows: Menthasarivarubra, Red Garden Mints, Menthaeruciata, Sive crispa, Croffe Mint or curled Mint; Mentha Romana, Speare Mint; Mentha Cardiaca, Heart Mint; Mentha Spicata Altera, Balfam Mint; Mentha aquatica Sive Sisymbrium, Water Mint; Calamintha aquatica, Water Calamint; Mentastrum, Horsemint; Mentastrum niueum Anglicum, Party colored Horsemint; Mentastrum minuss, Small Horsemint; Mentastrum montanum I. Clusii, Mountain Horsemint; Mentastrum tuberosaradice Clussi, Turnip-rooted Horsemint.

In Parkinson's "Theatrum Botanicum or Theater of Plants,"[5] published in London in 1640, very interesting decriptions of mints and their uses are given (pages 30-38), with engravings of twelve varieties, named as follows: Mentha Romana angustifolio sive Cardiaca, Hart Mint or Speare Mint; Mentha Cruciata, Croffe Mint; Mentha Crispa, Scispe or Curled Mint; Mentastrum hortense sive Mintha Sylve stris, the Manured Wild Mint; Mentastrum nivcum Anglicum, White Mint or Party Colored Mint; Mentastrum montanum Sive Pannonicum, Hungarian Wild Mint. The following specie are given under the heading of "Calamintha": Calamintha vulgaris, Common Calamint; Calamintha montana praestantior, the greatest Calamint or Mountain Mint; Calamintha arvenis verticillata Sive aquatica Bel, Field Calamint with whorled coronets; Calamintha minor incana, Small Calamint.

The first reference to any of the mints under a name suggestive of "Peppermint" appears to be in the "Synopsis Stirpium Brittanicarum," (2d Ed.) by Ray, in 1696, his attention having been called to the plant by Dr. Fales, who had noticed it in Hertfordshire. In this work Ray describes it as "Mentha spicis brevioribus et habitoribus, foliis, Mentha fuscae sapore fervido piperis"; and in his "Historia Plantarum" (1794, Tom III., 284) he refers to it as "Mentha Palustris"—"Peper-Mint." Afterwards Linnaeus gave it the name "Mentha Piperita," by which it is now universally known. It is stated that Ray's original specimen, which is still in the British Museum, agrees practically with that under cultivation.

Peppermint also appears to have been grown on the

continent, at Utrecht, as early as 1771, having been mentioned by the botanist Gaubius,[6] that year. It also was known in Germany and renewed interest was awakened in it through the writings of Knigge.[7] It became first official in the London Pharmacopoeia in 1721, as "Mentha piperitie sapore."

It is well-known that the mints have the power of modifying their botanic structure and the flavor of their essential oils by changes in soil, climate, the class of fertilizers used, and methods of cultivation. In this connection I might mention the fact that the Mitcham Peppermint plants, which I imported from England about twenty years ago, have already commenced to show modifications in structure, and the flavor of the oil has in the meantime undergone a change approximating more closely that of the original American variety. When visiting Yosemite Valley, California, famous for its magnificent scenery, a few years ago, I found a species of mint growing there indigenous, resembling Mentha Canadensis. No peppermint had ever been cultivated within a thousand miles of this valley, and it is interesting to speculate as to whether this may have been one of the earliest forms of the Mentha genus. The flavor of this plant resembled that of pennyroyal Mentha Pulegium rather more than peppermint.

The cultivation of mint appears to have been conducted in Japan centuries before the industry had assumed a commercial status in Europe; and though no authentic records to that effect are to be found, it is said to have been known in that country for over two thousand years. The methods of distillation are extremely crude and the variety of plant grown differs both in botanic structure and in the flavor of its oil from the true peppermint plant. The Japanese plant is M. Arvenis and appears such as might be expected from a hybridization of Mentha Viridis, Spearmint and Mentha Canadensis. The oil is very inferior in quality to that of M. Piperita.

COMMERCIAL HISTORY.

The commercial history began at Mitcham, in Surrey, England, about the year 1755, where at that time only a few acres of ground were devoted to medicinal plants. Fifty years later the area under cultivation was about one hundred acres, but the growers having as yet erected no distilleries, the plants were still carried to London for distillation. The industry in England reached its maximum just a century after its inception, the area under cultivation being about five hundred acres, after which it began rapidly to decline, owing to American competition, being reduced to about two hundred and fifty acres. When visiting the English peppermint fields, I found the plants less robust and thrifty than in America, which is in part due to our more fertile soil and improved appliances for cultivation and distillation.

The industry in America may be said to have been started in 1816 by Mr. Burnet, who collected a quantity of plants on the shore of a stream in Wayne county, State of New York, and distilled therefrom about forty pounds of oil. From this small beginning the industry developed until Wayne county, New York, soon became the chief peppermint producing section of the world, and was for many years famous for the quality of its product. In the year 1835 the first peppermint was planted in Michigan in St. Joseph county, on White Pigeon prairie, the first distillery being erected the following years. The distilleries first built in Michigan resembled those of Wayne county, which in turn resembled those of England; the essential features being a copper still into which the plants were placed immersed in water, under which a fire was directly built, the escaping steam being condensed in a crudely constructed worm or condenser. Many years ago the production of peppermint oil in Wayne county, New York, was in some years as great as 50,000 pounds, but owing to the more favorable soil found in Michigan and improvements in distilleries and methods the production has been reduced to about 5,000 pounds. Peppermint was also cultivated for some years in Ohio and some Southern States, but in all these States it has been for some years abandoned.

In the year 1846 a radical improvement in the form of distillery was effected in Michigan by substituting for the "copper kettle still" large wooden vats with steam-tight covers operating upon hinges, allowing them to be opened and closed at pleasure. A short distance above the solid bottom of the vat was placed a perforated removable bottom upon which the dried plants were closely packed, after which the cover was closed down, distillation being effected by the ingress of steam under the perforated bottom, by means of a pipe with valves connected with a steam generating boiler placed some distance away. Two of these vats were placed in each distillery. With this improvement it was possible to keep continuous fires in the furnace, also to allow distillation to progress constantly and uniformly, since the ingress of steam is regulated by valves and pressure gauges. Under the new system the yield of a single distillery increased from fifteen pounds to about fifty or seventy pounds of oil per day, also producing a higher quality, since the danger of forming empyreumatic products by direct contact with the fire was overcome. The size of the vats has gradually increased and in the four newest distilleries each distillery has four vats, with a capacity of about four thousand pounds per vat for each charge. Proportionately large steam generating boilers are nec-

essarily required and steam cranes have been introduced for handling the plants. The distilled charges are spread on the ground to dry, afterwards being removed to barns to be fed to horses and cattle. Improved tubular condensers covered with non-corrosive metal are used. When the weather is favorable and the plants are well covered with leaves and blossoms, over one thousand pounds of oil per day are occasionally distilled in a single distillery.

SOIL.

Peppermint is now most successfully grown on land which centuries ago formed the bed of ancient lakes in which various aquatic plants grew luxuriantly, whose gradual decay during many centuries formed a rich, black soil of decomposed vegetation. After the subsidence of the waters, trees of various kinds sprung up so that the lake bed often became a forest. Additional soil was formed year by year by the falling leaves and decaying trees until a thickness sometimes of over twenty feet of soil was accumulated.

This soil is usually jet black and extremely rich and fertile. Lying relatively low, it is necessary to thoroughly drain it, which involves much expense. Owing to the soft and yielding nature of this soil it is usually impossible for horses to work upon it during the spring months or after excessive rains, unless they are provided with "mud shoes," which consist of pieces of wood about one inch in thickness, nine inches wide and eleven inches long, fastened by clamps under the ordinary metal shoes. In the spring the water is scarcely one foot below the surface of the soil, and in the driest months it seldom recedes more than four feet below the surface. In America this soil is frequently known as "muck." It is rich in carbon and can be converted into compressed fuel briquettes. This new use is now attracting wide interest in America.

PLANTING AND CULTIVATION.

The ground, having been made ready by plowing the preceding year, is harrowed early in the spring to reduce it to a mellow state, being then marked with furrows about three feet apart. Workmen carry in sacks slung over their shoulders a quantity of the root stalks, which have been produced from the planting of the preceding year. These are about one-fourth inch in diameter and from one to three feet in length when in healthy state. They are placed lengthwise in the furrow by the workmen, who cover them with earth by a movement of their feet as they walk astride the row. An experienced workman can plant from one-half to one acre per day, according to condition of soil, roots, etc. With unfavorable conditions a smaller quantity is planted. With good weather the plants commence to appear above the ground within two weeks, but few plants continue to form for several weeks later.

Cultivating with horses begins within a few weeks after planting, for which purpose cultivators are used having many fine teeth. These are immediately followed by men with hoes, who remove the weeds and grass which the cultivators have left. This process is continued until the plants become so large as to render cultivation unnecessary, which usually occurs in July, at which time fresh root stalks have commenced to be thrown out, which during August and September will entirely cover the ground. The crop thus grown for the first time is known as "new mint." In the meantime the fields, which were planted the preceding year, have thrown up a "second" crop or "old" mint without replanting, and being earlier in the ground mature sooner than does the "new." Harvesting begins when the plants have approached maturity, which is indicated by the appearance of long purple blossoms at the extremities of the stems, the leaves being well charged with oil and those nearest the base of the parent stalk beginning to turn yellow and drop to the ground. It is at this season that the plants produce the highest quality of oil.

HARVESTING AND DISTILLATION.

To prepare for distillation the plants are mowed and allowed to dry in the sun a little less than hay is usually dried; it being desirable that as much curing shall be done as may be effected without the loss of the leaves and blossoms in handling. Distillation is conducted with much greater rapidity and a better quality of oil results when the plants are well dried; but if too dry, a serious loss of oil occurs by abrasion. It was long supposed that a loss occurred by diffusion in the atmosphere through drying, on which account many growers drew the plants to the distillery in the green state, in which condition it requires fully twice the time for the extraction of the oil besides much additional expense in handling the extra weight. The longer steaming also injures the quality, by depositing resin in the oil, extracted from the stems. It is found that the drying of the plants produces a physical condition of the leaves which causes the oil cells to be easily ruptured by the steam, and distillation more quickly accomplished. It is of extreme importance that the entire crop should be distilled as quickly as possible after maturity.

To determine this question I made a careful experiment many years ago as follows: Equal areas of ground and equal quantities in weight of plants growing side by side were cut down at the same hour near mid-day, when the plants contained no abnormal moisture. Half the plants were immediately distilled. The other half were dried in the shade for six months, losing 49.4 per

cent. in weight. It was found that no loss whatever of oil occurred by excessive drying, as the oil is held in microscopic cells, which nature has thoroughly sealed.

The plants having been properly dried are drawn to the distillery and are placed at once in the distilling vats already mentioned. If well dried—and a sufficient supply of steam is passed through them, distillation may be effected in from thirty to forty minutes, but in the case of undried plants or those upon which cold rains have fallen, two hours is frequently required. Steam is admitted at the bottom of the vats, the constant pressure forcing it upward through the plants. The heat expands and ruptures the oil cells and the oil being thus carried away with the steam, passes through the condensers, flowing thence into a receiver, where separation occurs by gravity. Harvesting and distillation are effected in America during August and September.

In the very comprehensive and valuable work on Volatile Oils, by Drs. E. Gildemeister and Fr. Hoffman, may be found a number of illustrations representing scenes in peppermint harvesting, etc., as well as much interesting data regarding the industry.

The yield of essential oils varies greatly. With plants well supplied with leaves and blossoms and under favorable conditions of weather I have obtained nine to ten pounds of oil from one thousand pounds of plants; but with unfavorable conditions, less than one pound. The year 1902 having been exceedingly unfavorable, the yield of oil was the smallest for many years.

A fair estimate of the average annual production and consumption of American peppermint oil may be placed at two hundred thousand pounds per annum. It is certain that the amount sold as oil peppermint is much greater than the quantity named, being increased by adulteration. Owing to the reduced crop of the last year, adulteration has prevailed recently to an alarming degree. Mr. E. J. Parry, B. Sc., F.I.C., in a report published in the Chemist and Druggist, London, Dec. 6, 1902, gives the tests of ten samples, all represented as pure, but none of which were pure; and the extreme adulteration in most of the samples is readily seen by the specific gravities and optical rotation data given. Some are sold under spurious labels with fictitious names of persons claimed as distillers to hide the identity of the adulterators. Measures have been inaugurated for disseminating information regarding quality, tests, etc., which it is hoped will result in materially checking adulteration hereafter.

Peppermint in the pure state is highly agreeable and beneficial, and its consumption during the past twenty years has doubled, owing to new uses which have been found, and an increased use for those purposes to which it had already been applied. It is estimated that about forty million pounds of peppermint plants are produced annually in Michigan, within a radius of seventy-five miles from Kalamazoo, yielding on the average about two hundred thousand pounds essential oil. About one-half of this is consumed in America, the remainder being exported chiefly to Europe.

In The Matter of Rosin.

A convention of the National Paint, Oil and Varnish Association was held last month, and among many other important features of its proceedings was a report of the Committee on Naval Stores. The interests of the association are concerned with rosin much less than with turpentine, but since both are the products of the same operators, the report of the committee named is of unusual interest to our readers also. We therefore take the liberty to quote at length from the full report of the proceedings as it appeared in the Oil, Paint and Drug Reporter.

The report was as follows:

Your committee begs to present the following report on the naval stores industry. It was thought, when figures were being compiled for last year's report, that the range of prices for spirits of turpentine had been exceedingly high, due to a very prosperous trade year and a large foreign demand for this product. The range of prices for the present year, as far as it has gone, however, are showing a considerable advance over the range of prices for last year—the naval stores year at the ports begins with April 1 and ends March 31. In taking these prices we have not confined ourselves to the usual naval stores year, but have taken the past twelve months, according to figures compiled by Mr. C. L. Chesnutt, superintendent of the Savannah Board of Trade. From September, 1902, to the last day of August, 1903, the price of spirits of turpentine ranged from the high price of 65 cents in February and March to a price of 44¾ cents in September, 1902, this being the low water mark for the past twelve months, whereas for the corresponding twelve months—September 1 to August 31 in the years 1902-1901—the prices ranged from the highest price of 53 cents in March to the lowest price in September, 1901, of 33⅜ cents.

Figures secured from the same authority regarding the receipts at the port of Savannah (which is the principal receiving naval stores port of the world) show the receipts of turpentine for the twelve months ending Aug. 31, 1903, to be 227,891 barrels, as against receipts of 302,389 barrels for the twelve months ending Aug. 31, 1902.

A comparison of figures for the entire turpentine crop for the last three naval stores years, shows a continued shrinkage for the naval stores year, April to March, 1900-1901, were 617,000 barrels of turpentine; for the same period, 1901-1902, the entire receipts of turpentine

were 593,000, and for the last naval stores year, ending March 31, 1903, were 561,000 barrels, a continuous shrinkage notwithstanding that industrial development of this country have greatly increased domestic consumption This will to a large extent explain the advancing average cost of this production.

In looking to the cause of reduced production, it is found to be the rapidly decreasing territory covered by our virgin pine forests which are being recklessly cut away by large milling syndicates, with no provision being made for replacing this large destruction of valuable timber. This is due to causes which at present seem difficult to guide. We are glad to report that the United States government, Department of Agriculture (through their forestry branch), in the last several years have been making energetic efforts to educate the people and to point out to them that a time must come when this reckless destruction of our forests will have to be curbed by legislation. This time, however, has not yet arrived, and possibly will have to be forcibly put before any very decisive steps are taken to stop these serious inroads. In the older countries strict forestry laws make it necessary to plant out young trees when the old ones are felled for the market. It will probably be a good many years before our legislators could enforce laws regulating the cutting of our forests. We feel, however, that it is our duty to encourage the efforts of the government through their Agricultural Department, and to sanction with our voice the steps they have taken to as far as now possible curtail these destructive inroads on our forests.

Regarding the quality of the spirits of turpentine that has been marketed the last year or two, it has been most seriously threatened (because of the high prices) by the addition of adulterants by irresponsible manufacturers, and, I am sorry to say, dealers. Noticeably, the most dangerous adulteration is a wood turpentine which is manufactured by what is called the "Destructive Process." It is made from the stumps and fat wood—knots of the pine trees that have been left after the saw mills have taken away valuable round timber. This turpentine is being marketed under various brands and trade marks, and represented as being in all respects equal to pure turpentine. It can easily be distinguished by the strong odor of creosote, and in some instances an odor somewhat similar to "Ether." In specific gravity, however, it is the same as pure spirits of turpentine, and by a chemical process this peculiar odor has in some cases been almost removed. As far as our inquiry has gone, we have found considerable objection (in all branches of the trade) to the use of this destructive distilled turpentine, and it will not command the same commercial price as pure spirits of turpentine. Where it is used as an adulterant it is extremely difficult to detect. Producers of turpentine in the states of Georgia and Florida (the largest producing states in the Union) have looked so seriously upon this adulterating feature that both of these states, in the last twelve months, have passed "Pure Turpentine Laws," making it necessary to sell this destructive distilled turpentine under a brand other than pure spirits of Turpentine, and your committee would recommend that the efforts of these producing states be seconded (by states where pure spirits of turpentine are distributed) in securing, if possible, a similar legislation, making it necessary to designate on the package where pure spirits of turpentine have been adulterated with this destructive distilled turpentine, or with any other adulterant. Until some such legislation is had, with laws similar to the "Pure Food Laws" (now in operation in many states) doubtless this adulteration will continue to the detriment of the small buyer and consumer.

Information received from the most reliable sources shows that there will be a continued shrinkage of the turpentine output in this country for the present turpentine year, of anywhere from 5 to 15 per cent. The consumption seems to continue normal and if there is no interruption to trade conditions, the consumptive demand should be about the same as last year.

Rosin.—We shall not consume more of your valuable time by entering into detail in giving the range of prices, etc., on rosins (as they do not so closely concern us), but simply state that in proportion, the receipts have been correspondingly diminished as compared with the receipts of turpentine, and prices, if anything, have been higher in proportion, possibly due to active demands by industries that are large consumers of this product.

Before closing our report, we would like again to direct the attention of the members of this association to the very interesting progress that is being made in the manufacture of wood distilled turpentine. It would be quite interesting to have reports from manufacturing members of this association, as to the results of their experiments, and their voice as to the value of this product.

As far as we have investigated this subject, it appears to us that it is simply a question of time when this destructive distilled turpentine will take its rank as a substitute for turpentine, and rank as of important commercial value in its own class. We think the matter of sufficient importance for this association to use their united efforts to have it marketed as a distinct and separate product, and to be sold on its own merits, and a discussion as to how and the best method of accomplishing this purpose would be quite interesting.

We have endeavored, so far as in our power, to present to you only a general report on the most interesting

features of the naval stores industry for the last twelve months, and trust we have not made this report too general to be of interest and value. Respectfully, W. M. Bent, chairman; Wm. Waterall, Robt. Whitelaw.

The President—This report has received the approval of the Board of Control, and been given to the convention for action.

Mr. Longstreth moved that the report be accepted, and the motion was seconded by Mr. Rice.

Mr. Andrews—I notice that the committee state that this turpentine of destructive distillation can easily be distinguished "by the strong odor of creosote, and in some instances, an odor somewhat similar to ether." Within about eight or nine lines underneath that, they make another statement that "where it is used as an adulterant, it is extremely difficult to detect." I think the committee is laboring under a delusion, inasmuch as this material cannot be used as an adulterant without its being detected. There is a very strong, pungent odor that makes it impossible not to be known to the party using the material. There is only a difference of about five cents a gallon at the present time, between this product and the pure turpentine, and chemically and medicinally, and for all practical purposes, it has the same qualities as pure turpentine. I would like to ask the question, if any of this committee are here, as to whether the receipts stated here as being official include the turpentine that is not shipped into the seaport towns, that is taken direct from the stills and shipped West?

The President—Can ony one enlighten Mr. Andrews on this question?

Mr. Hamilton—I think it safe to assume that those reeeipts are not taken into consideration, because they are not included in the official report. There is one feature of this report that I cannot help noticing in hearing it read. The report is a very interesting one, and the statistics are all valuable; but it is what I should call distinctly a "bull report," and the Lord knows turpentine don't nced any "bulling." The thing I notiee that is not mentioned here is the fact that there has been a tremendous diminution in the exports of turpentine, which so far as it goes, operates as an offset to the diminished output. If any of the members of the committee are here who are familiar with the figures, I should like very much to know what the falling off in the export trade in turpentine has been in the past year, as compared with the previous year.

Mr. Andrews—I would like to call another matter to the attention of this committee, whieh they failed to incorporate, that here within the past thirty days there was a convention held in Jacksonville, Fla., of some seven hundred men, representing 95 per cent. of the producers of turpentine in this country, and it is on account of what is known as the Turpentine Operators' Association that at the present time the varnish and paint men are paying high prices for turpentine, and it seems to me these matters should be opened up in a convention of this character, inasmuch as we are concerned in paying the price, and somebody else is the seller. But they go on to state that they fear there is going to be a time when we won't get sufficient turpentine. They don't state the possibilities of the Russian product. They don't state that there has already been discovered in Africa groves of trees that will produce, that will be valuable as soon as the facilities for transportation will get it to market cheaply enough to pay for the cost of producing it, and we would like to have a little of the "bear" side as well as the "bull" side.

Mr. Lawrence—The French government is reclaiming a vast portion of what is swampy land, in the southwestern part of France, in what is known as Bordeaux, and adjoining. I have been over there investigating conditions, and the government has planted there, it would be impossible for me to say how many square miles, because the train passed for hours through this section, land that was entirely unproductive, and now they have planted this, and you can ride there for hours and see how far it extends on either side; it is hard to say how far.

Mr. Clapp—It is unfortunate none of the committee appear to be present, and it seems a little severe to criticise the report and ask them as many questions as we are here, without having an opportunity for defense, and I would inquire if the chairman would be here to-morrow, Mr. Bent?

The President—Mr. Bent is in the city. It is to be regretted that he is not here this afternoon.

Mr. Clapp—Would it not be advisable, then, that this report lie over until to-morrow and he is present? If there is no objection, I would move that this report lie over until the chairman present to defend his position.

Mr. Watson—I would like to ask, as a matter of information, if there is anybody here who has made praetical tests of the matter. The committee invites such information, and I, personally, would be glad to hear of some one who has used it either in the manufacture of varnish or paint, as to how it works as compared with the pure spirits of turpentine. I have had an idea that this product was going to come into the market and be a very valuable adjunct to the paint business. I have had samples submitted, which I have tested, and I am very much interested in them. They have been able to overcome this strong objection in the way of odor, to a great degree. Whether it has lessened the quantities of it or not, I am not prepared to say.

Mr. Arnold—This turpentine question is a very important one to all of us. It is getting to a point now

where turpentine is almost prohibitive in its use. It seems to me this association should do something to reduce the price of it. It does not seem that it is only that there is not the amount of trees cut, and that trees have been taken away, but the producers are banding themselves together to cut it still further and reduce the amount of the output. I happen to have a clipping concerning what Mr. Andrews referred to, which says that it is resolved by these seven hundred people that the output for 1904 be no more than 1903. If they can get together and resolve there will be no more, why can't we get together, seven hundred of us, and resolve that we reduce the price in some way or other, or get legislation that will help us to do so? This question of adulteration, I think, will take care of itself. My experience is this: We made a can of 550 gallons of varnish. In that can of 550 gallons was 20 gallons of wood turpentine. After that had stood three weeks, the foreman in our plant called me down to smell the horrible smell that was emanating from that can of varnish. We sent out some of it which was mixed half with another can of varnish, and the very first man who got one of those packages called me up on the 'phone and said: "Arnold, for God's sake what is in this varnish?" Now, that was a proportion of 20 gallons to 550, and then cut in half with another. I don't think we need to fear anything from the use of wood turpentine. Or will it help us to reduce the cost any? Every one, I think, when this thing was presented, said: "Here is something that is going to help us; if it is five cents a gallon less, it means a whole lot." But you cannot use it. Every customer objects to it ten times worse than the use of benzine. It isn't as sweet as benzine. But on the market, at these high prices, will come turpentine which has benzine, and if we can do anything that will give us pure turpentine, as dealers, not as manufacturers, the manufacturers will see that you get turpentine all right. This question of reducing the supply, with the continued increase of the demand, is the most important thing to me.

Mr. Andrews—It is very important to us.

Mr. Arnold then read the clipping referred to, in full, as follows:

"The Turpentine Operators' Association, which met in annual convention at Jacksonville, Fla., last week, denounced the action of the factors in Savannah, who were selling on private terms, independent of Savannah quotations. The convention provided for the establishment of a tank and warehouse company, with tanks and warehouses at Fernandina, Pensacola, Jacksonville, Mobile and New Orleans. The recent acts known as the Pure Spirit bills, passed by the last sessions of the Florida and Georgia legislatures, were commended, and the states of Alabama, Mississippi and Louisiana asked to take similar action. There were seven hundred delegates present from North and South Carolina and Louisiana, Alabama, Georgia and Florida. One of the most important matters of the convention was the question of avoiding overproduction for the coming year. P. S. Sutherland led the discussion in this matter. He referred to the fact that the operators had a much better chance of a profitable business if they limit the box cut, and demonstrated to the meeting that this could be done if the operators would stand by a solemn agreement. Mr. Sutherland was followed by others who were of the same opinion. The following resolution was introduced and passed unanimously:

"Resolved, that the output for 1904 be no more than for 1903; and, further resolved, that the operators of each section get together and so adjust the matter that the purpose of this resolution be effected."

The President—Mr. Clapp's motion is before the house.

Mr. Arnold—I would like to move that a committee be appointed to see if this is not a conspiracy, or something of that kind, where we can take action against it.

The President—There is a motion before the house.

The motion made by Mr. Clapp was then duly carried.

Sampling of Soap.

Robert Brown of Donaghmore, Ireland, has secured a patent in England on an invention that seems worth mentioning here:

This invention has for its object an arrangement whereby samples of shaving soap, tooth soap, ordinary soap, and other articles of a like nature can be formed and sent out, so that a large surface of the material shall be shown, and yet very little of the material required to be used in the sample.

The invention consists in forming a leaf as in ordinary leaf soap, but preferably round. This leaf is placed against a thin stiff cardboard containing all the particulars of the sample, such as the name, the address of the firm, the price, etc., in fact an advertisement of the particular soap or article. A piece of oiled paper through which the moisture from the soap cannot penetrate is now pressed against it. The round disc thus formed will not break, the soap will not get soiled or soil anything else, and it can be kept for any length of time without deterioration, especially if the piece of cardboard be also impenetrable to moisture. When the soap has to be examined or used, the oiled paper is simply stripped off. There is now a perfectly free surface for examination, for testing or for washing with. The soap is found in all instances to adhere to the card rather than to the oiled paper, but the oiled paper stieks firmly to it until it is required to be peeled off.

The Place of Soap in the Evolution of Luxury.

ABSTRACTED BY L. L. LAMBORN FROM AN ARTICLE IN THE INTERNATIONAL JOURNAL OF ETHICS.

Whoever visits some great historic princely palace of Florence, such as the Pitti, for example, cannot fail to be impressed by two facts, the small amount of light that penetrates all the rooms, and the irrational disposition of the chambers, rendering them of scant convenience to those who are obliged to use them. Alexander Manzoni, speaking of Federico Barromeo, makes one of those acute observations that are often equivalent to an entire historical treatise. He notes that Barromeo, while dressed quite simply, took great care to be clean. "A rare thing," he says, "in that age of dirt and display." This remark concerning the Spanish Lombard aristocracy of the XVII. century, which reflected the customs of the Spanish aristocracy, may be applied to all civilized societies of the past as compared with those of the present. Display was there united, even with the richest classes, with great dirtiness—personal dirtiness and dirt in the houses, the streets and the cities. To wash seems to us a most simple habit, yet it required time before men were brought to regard it in this light. In the society of the past there was little love between men and water, even in the highest and most refined classes. It may be objected that in the days of the Roman empire baths were of general use, but they served rather to gratify a sensuous pleasure than for the purpose of personal cleanliness. The baths were construeted for diversion; it gave a delightful physical sensation to be immersed in tepid or cold water and to vary by subtle artifices the temperature of the body. So true is it that the need for personal cleanliness had little to do with the passion for baths that in the Thermæ many people bathed together in receptacles that were by no means large and in which the water necessarily quickly became dirty. Baths were simply a sensuous diversion, like the dance, like wine. In that epoch when all sensuous pleasures easily became morbid passions, there was also a Sybaritism of the bath which had its votaries who abused its use and would take as many as five, six and seven immersions a day. This is also confirmed by the modest Cinderella-like place that was assigned in the world of the toilette, even in the most civilized societies of the day, to an object which is now regarded as of supreme importance, namely, *soap*.

In all the ancient world the place now occupied by soap was held by perfumes and substances designed to procure a sensual pleasure, and while the commerce in perfumes led to an enormous traffic, hardly a trace is found of any commerce in soap. It seems that the Romans did n o t know of it until the days of Pliny, deriving it, it would seems, from the barbarian people of the North. Even the Arabs, who quickly formed a rich aristocracy after they had become dominant in Europe, men fond of all luxuries and display, to whom merchants bore all the refinement and conveniences of the toilet from all the world, from India as well as from distant Scandinavia, were unaware of the product called soap, until some two or three centuries after the foundation of their empire, an evident sign that less need was felt for it than for perfumes.

By a curious contradiction luxury follows an evolution exactly contrary to that of other great social movements, such as religion, morality, etc. While these become spiritualized as they progress, and seek to satisfy more and more the nobler sides of man, his thoughts and his conscience, rather than his senses, endeavoring to procure for him spiritual ecstasy rather than voluptuous sensations; luxury on the other hand becomes materialized and grows more and more the humble servant of the body, bending itself to pandering to man's lowest needs and almost relinquishing any idea of satisfying the pleasures of his soul. To shelter the body from cold or heat, to save it as far as may be from muscular fatigue, to eliminate all sensations disagreeable to our refined senses, to produce comfort when we walk, sit, read, eat or sleep, such is the supreme ideal of modern luxury. Only an eccentric person would choose nowadays to sleep in an old comfortless bed because it had been inlaid by a great artist.

Indeed this transformation of luxury does not merely indicate a change of tastes, it indicates even more forcibly a moral evolution, a great augmentation in social solidarity. In fact bodily comforts and health, even if in themselves they seem entirely selfish, comprise instead a rudiment of social solidarity, because health and strength are essential conditions requisite in order that a man may contribute his quota of work toward society. Whoever fritters away his own health not only wastes himself but robs society, inasmuch as he diminishes his own capacity to fulfil his duties towards his fellow-men. An aristocracy, like nearly all of those that dominated in the past, which in the manners and actions of private life only considered display, pomp, artistic beauty, without giving thought to the right of the human organism to be protected against the numerous exterior causes of pain, shows the fundamental principle of its ethics to be very egotistical and its search after pleasure to be stronger than every other consideration. In the same manner the evolution of luxury, whereby cleanliness and decency have largely usurped the place of importance that was formerly given to display, is only one of the many aspects in which the great moral evolution is made manifest, and an infinitely larger sense of human solidarity has developed.

Cleanliness is for the body what dignity is for the soul; display is for the body what vanity is for the mind.

Display is an egotistical waste of an enormous amount of labor directed to satisfy the vanity of a few; cleanliness, on the other hand, is a social duty. The man who merely endeavors to be dressed sumptuously is an egotist whose only aim is to make an impression; the man who attends to his own cleanliness is a man who has attained to a finer sense of his physical dignity, and who begins to carry into effect the principle that a man must contribute by the care of his own body to the decency and hygiene of all society.—Oils, Colours & Drysalteries.

Poetic Retribution; or, a Wail from the Barber Shop.

Barber put tonic on a bald pate. Pate's owner though he felt hair sprouting. Bought formula. Check for large amount. Hair did not materialize. Expert examination of formula. Castile soap, quinine, water. Payment stopped on check. Law suit. Pate's owner got decision. Judge bald-headed. New trial. Appeal. All in favor of pate's owner. Barber looking for judge with plenty hair—and justice. Vain search.

A barber with tonic for hair
Told "Baldy" 'twould make it grow there,
And in less than a trice
He'd got a good price
From the man who sat in the chair.

But the hair didn't grow for a cent,
And to law the two parties went.
The judge being bald,
When the hair case was called,
The barber to state's prison sent.

—Southern Drug Journal.

Tariff On Olive Oil.

The Board of United States General Appraisers has rendered a decision sustaining the protest of P. Torre & Sons Company, on the assessment of a duty of 45 cents per gallon on olive oil imported by the protestants at New Orleans, under paragraph 40, act of 1897. The decision followed the ruling in the case of the Oil Seed Pressing Company vs. the United States, 114 Fed. Rep., 793, in which it was held that olive oil, containing a large percentage of free fatty acid, having an acrid taste, a strong, offensive and rancid odor, unsafe for human consumption, and not imported or adapted for food consumption, is entitled to free entry under paragraph 626, act of July 24, 1897, as olive oil for manufacturing or mechanical purposes and "fit only for such use." The fact that such oil is used for frying or salads by a class of foreigners presumably ignorant of its deleterious qualities and injurious effects does not show that it is fit for use as food.

Sapo Mollis and Linimentum Saponis Mollis.

BY GEORGE M. BERINGER.

(Read at the Fifty-first Annual Meeting of the American Pharmaceutical Association held at Mackinac Island, Mich., August, 1903.)

These preparations are but seldom prescribed under their present official titles, but are almost invariably ordered under the name of Sapo Viridis and Tinctura Viridis, by which they were designated in the 1880 Pharmacopoeia. This introduction into medicine was due to German dermatologists. These early users were supplied with a soft soap possessing a decidedly green color and yielding with alcohol a bright green-colored tincture. As hempseed oil alone yields a soap of such color, I presume that this was the oil used in the manufacture.

A soft soap suitable for medicinal use should answer to the following requirement: A smooth, even soft, unctuous mass, having a translucent, greenish-yellow color, soluble in alcohol and water to clear solutions and leaving only a minute insoluble residue, and the filtered solutions should be clear, and, while moderately alkaline, must not be irritant from excess of alkali, and must possess strong detergent action.

A number of formulas for medicinal soft soap have already been published, and the object of this paper is to present some experiments on the same subject. These formulas can be classified under two heads, namely, those made by the cold process and those made with the aid of heat and generally with the addition of a moderate amount of alcohol.

The cold process formulas are well illustrated by the following, which was given under the title, "Sapo Viridis" in the first edition of the National Formulary:

Take of—

Potassa	8 parts
Water	12 parts
Cotton seed oil	24 parts

Dissolve the potassa in the water, and while stirring the solution add the cotton-seed oil. Stir occasionally during forty-eight hours, then transfer to suitable vessels.

The product of this formula is not green at all, and has no claim to the title given. Moreover, it is subject to the very serious objection that it is entirely too alkaline, and this objection necessarily holds against all cold process soaps.

The official formula for soft soap was undoubtedly copied after that in the German Pharmacopoeia. The

latter also recognizes "Sapo kalinus venalis," and the American market was formerly largely supplied with importations of this commercial grade. Hager (Pharmaceutische Praxis), states that "this commercial soft soap is a product of varying composition, being made from mixtures of rape seed oil with linseed oil, train oil, hemp oil, etc., with a large excess of alkali, and frequently colored artificially by the addition of copperas, dyewood, indigo and other coloring materials to produce the color desired. Hemp oil produces a beautiful green without the addition of other coloring."

Following the official formula on the manufacturing scale, the writer was confronted with a practical difficulty, namely, that linseed oil, per se, was not readily saponified, and in order to obtain a fair product, the amount of potassa and alcohol used was greatly in excess of that directed. Yet the entire replacement of linseed oil by some other oil such as cotton seed oil, which has been proposed, may be objected to on therapeutic grounds, even if the latter did not present some objection that will be shown later.

Experiments were undertaken to determine the following points needed to establish a satisfactory formula; the oil, the correct amount of alkali to obtain a product sufficiently detergent, and yet not irritant, the proper temperature, and the amount of alcohol necessary to insure saponification and the yield.

My experiment led me to adopt the following formula:

Take of—

Linseed oil	40 grams
Malaga olive oil	40 grams
Potassa	19 grams
Alcohol	10 Cc.
Water	60 Cc.

Warm the mixed oils on the water bath to 70 degrees C.; dissolve the potassa in the water and warm this also to 70 degrees C. and add this to the oils and stir thoroughly. Now add the alcohol, and as soon as this is thoroughly incorporated stop stirring. Continue the heat at this temperature for a short time until saponification is complete, which is evidenced by the mass becoming clear and a portion dissolving in boiling water or alcohol without the separation of oil globules. The finished product will weigh about 140 grams.

If the above directions are followed, the resulting soap is an almost transparent, smooth, greenish-yellow mass, but if stirring is continued after the addition of the alcohol until the saponification is completely effected, then the resulting soap is opaque from including air.

Taking this as a fundamental formula, samples of soap were made by substituting various other oils and mixtures. Of these the following are worthy of exhibition and comment: Malaga olive oil saponified with 10 Cc. of alcohol, but cotton seed oil, Lucca olive oil, linseed and hemp oils each required 15 Cc.

The cotton seed oil yielded a soap that was transparent and almost colorless and the liniment prepared from this in accordance with the official formula was pale yellow, almost colorless. Neither to this soap nor to its liniment would the official synonyms be applicable, yet these are the names used by prescribers.

The Lucca olive oil soap and liniment were nearly identical in appearance with those from cotton seed oil, being only a slight shade deeper in color.

The commercial or Malaga olive oil yielded a transparent, yellow soap, having a faint green tint, and the tincture was likewise yellow.

Linseed oil yielded a greenish-yellow soap, and the liniment, while yellow, had a distinct greenish tint.

A mixture of equal parts of linseed oil and Malaga olive oil, as recommended in the above formula, yielded a soap and liniment identical in color with those made from linseed oil.

Hemp seed oil yielded a transparent green soap and the liniment made from it was bright green. In odor and color this liniment closely resembled the tincture of green soap as originally imported.

DETERGENCY.

As the soft soap and the tincture, or so-called liniment, are both chiefly used for their detergent value and not as a liminent or rubefacient, a comparison of the detergent strength of these tinctures was considered as an important factor in deciding the relative desirability of the soaps and the oil preferable for the formula. The writer was surprised to note the very marked difference in these tinctures in this respect; as, for example, .5 Cc. of the tincture from cotton seed oil soap shaken with 100 Cc. of distilled water formed a foam which lasted only seven minutes, while .1 Cc. of the tincture from Lucca olive oil similarly treated formed a foam which persisted for five hours.

In order to make a comparative determination the following arbitrary test was adopted and the six samples of tinctures all prepared by the standard formula were subjected to exactly the same conditions:

To 100 Cc. of distilled water contained in a new, clean four-ounce vial, .1 Cc. of the tincture is added from a pipette and the vial corked and given five distinct shakes or jars with a wrist movement and then set aside at rest, and the persistence of the foam noted.

This simple test I believe to be practical, and to give a fair indication of the detergency. The results are stated in the inverse order of the strength exhibited by the samples.

The tincture of cotton seed oil soap gave a foam which lasted only three minutes, and the writer at once showed a cloudiness. After standing over night (12 to

14 hours) the water was quite cloudy, and on agitation failed to show any tendency to foam. The deficient detergent value of cotton seed oil soap should alone be sufficient to exclude it from official recognition.

The tincture from hemp seed oil soap gave a foam which lasted for three minutes. The water was cloudy at once, and this increased decidedly after standing twelve hours, when the solution showed only a slight tendency to foam.

Linseed oil soap held the foam for three hours, and after twelve hours standing the water had become somewhat cloudy but was still slightly frothy.

The tincture from Lucca olive oil soap gave a foam which lasted for five hours, and the next day the water, which was at first clear, showed some cloudiness, and only a slight tendency to foam.

With the tincture from Malaga olive oil soap the foam lasted six hours, and after twelve hours the water had become faintly cloudy, but gave abundance of foam on agitation.

The tincture from the mixed linseed oil and Malaga olive oil soap held its foam for ten hours, and after standing twelve hours longer showed but little cloudiness and gave very persistent foam.

All these aqueous solutions, after standing for twenty-four hours, showed some signs of decomposition, the water becoming more or less cloudy.

Abrasive Materials For Scouring Soaps, Etc.

The U. S. Geological Survey has prepared a report on the production, in 1902, of the various abrasive substances used in soaps and polishing powders, such as tripoli, pumice, quarts and pumice. The following notes are extracts from this report:

PUMICE.

Pumice is a general name given to the loose, spongy, cellular or froth-like parts of lava, this peculiar structure being undoubtedly due to the escape of steam or gas through the mass while in a state of fusion. Commercial pumice is also made from another volcanic produce known as volcanic ash, which includes the finer detritus that is ejected in many eruptions and is often deposited at considerable distances. Both the solid pumice stone and the volcanic ash are mined as a source of commercial pumice.

The volcanic ash deposits of Nebraska have been worked to some extent during 1902, the product being used largely in the manufacture of certain soaps and scouring powders. This production amounted to 700 tons, valued at $2,675.

Almost the entire demand for pumice is supplied by a deposit in the northwestern part of the Island of Lipari, about 80 per cent. of that used in the United States being shipped directly here from that island. If the Hawaiian product can compete with that from Lipari, it is in sufficient quantity to more than supply the demand of this country.

No record is kept by the Bureau of Statistics of the quantity of pumice imported into the United States, only its value being recorded. There has been no regularity in the importation of pumice; some years enough is imported to satisfy the market for a year or more. Thus, in 1896 no pumice was reported as imported into this country, and in 1902 the imports were valued at $22,448. In other years it has varied in value from $43,788 to $65,930.

INFUSORIAL EARTH AND TRIPOLI.

There are included under this head all porous siliceous earths of organic origin such as infusorial earth, diatomaceous earth and tripoli. These are formed from the siliceous shells of diatoms and other microscopic species and occur in deposits that are sometimes many miles in area. This material has been mined during the last year in New Hampshire, New York, Maryland, Virginia, Georgia, Missouri and California. There is also included under fusorial earth the siliceous material found near Carthage, Newton County, Missouri, which extends over into Indian Territory and which is evidently residual silica left from an impure siliceous limestone by the leaching out of the calcium carbonate. This material is not available in the manufacture of polishing powders, etc., but is adapted to filtering purposes and can readily be cut into any shape desired.

The infusorial or diatomaceous earth from near Richmond, Va., has been examined under the microscope, and diatom remains were readily recognized. The material contains only 70.14 per cent. of silica, considerable alumina, and a little iron oxide. It is probably an infusorial earth mixed with more or less of clay material.

The deposits of California, near Lompoc, Santa Barbara County, are being vigorously investigated and developed by Mr. H. M. Hanmore, of Los Angeles. The material occurs within a few feet of the surface and can be gotten out in any shape or quantity. It is nearly a pure white in color, contains when free from water as high as 97 per cent. of silica, and is a true diatomaceous earth as is readily determined when it is examined under the microscope. The deposit is of considerable thickness has apparently been disturbed but little and is light and porous. It is very homogeneous and is ready for use as soon as crushed. There was observed near the upper portion of the deposit an opaline silica which was very compact and dense.

A considerable variation will be noticed in the quantity and value of the infusorial earth produced in the United States from year to year, which is due partly to

the substitution of other materials for it and partly to the production by some companies in one year of an amount of the raw material sufficient to last a year or two. The variation in value is chiefly due to the different conditions in which the material is marketed.

The tripoli imported into the United States is included with rotten stone, which is used for similar purposes. The value of the imports in 1902 was $39,926, which is nearly the same as the value of the production in this country. No record was kept by the Bureau of Statistics of the number of tons of this material imported.

CRYSTALLINE QUARTZ.

About one-third of the quartz manufactured, used under the general head of abrasives, is used in the manufacture of scouring soaps and sandpaper. The larger proportion of the output included here is used as a wood finisher, and is obtained from Connecticut.

In 1902 the production of crystalline quartz included under abrasives amounted to 13,904 short tons, valued at $99,335, as compared with 14,050 tons, valued at $41,500, in 1901. This large variation in value is due to the fact that in 1902 the valuation reported was in some cases after being crushed or ground. The actual value of the crude quartz varies from $2.50 to $5 per ton, and will average about $3 per ton. Using this valauation per ton for the quartz mined, the total value is $41,712.

No figures are recorded by the Bureau of Statistics showing the imports of crystalline quartz, and very little is believed to have been imported in recent years.

Transparent Glycerine Soap.

An excellent transparent soap, without alcohol, can be prepared from the following ingredients: Cocoanut oil, 13,000 parts; tallow, 15,000; castor oil, 18,750 parts. These are mixed together in a pan, and left to stand until cooled down to 69° C., whereupon they are crutched in with 28,000 parts of a 35° B. caustic soda lye previously warmed to 19° C. When the mass is sufficiently cooled, it is heated on a water-bath to 82—88° C. for about four hours, by which time combination will be complete, and a clear, transparent product will be obtained.

Meanwhile 12,500 parts of sugar and 1,500 parts of glycerine have been dissolved in 13,000 parts of water, and filtered through a cloth to remove dust, the slightest particle of which would be visible in the soap. After heating up the sugar solution to 88° C., it is mixed with the soap, which is removed from the water-bath for that purpose. This is followed by the addition of 5,000 parts of finely powdered soda crystals, and the soap is then returned to the water-bath, where it remains until the soda is completely dissolved. Samples of the soap taken at this stage and dropped on a glass plate should be solid, but they are not yet quite clear, a rest of two hours being necessary to ensure full clarification. At the end of this period of repose, a cupful is taken out and cooled; if not then quite clear, another 500 to 1,000 parts of soda must be added to the soap, with which it will combine when the temperature reaches 62° C. Finally, after cooling down to 56° C., the soap is scented and framed.

Great care should always be used in the preparation of this soap, the saponification of tallow being a difficult matter with concentrated lyes. In winter the difficulty is accentuated by the tendency of the soap to solidify on the upper edge of the pan, which should therefore be warmed up before the introduction of the tallow. The numerous failures in making this class of soap, and the production of an imperfectly clear article, are partly due to the employment of a wrong proportion of lye, but chiefly to the fats used. This is why it is preferable to purify the fats beforehand, which is accomplished in the following manner: 25,000 parts of the fat (tallow, cocoanut oil) are treated with 6,500 parts of water, followed by 1,000 parts of 20° B. caustic soda lye and 500 parts of salt, the whole being then boiled. The scum collecting at the surface should be skimmed off, and may be utilized in the manufacture of a lower grade of soap. When the scum ceases to form, another 250 parts of soap are added, and the boiling is continued. If no more scum rises, and the oil remains clear, it is left to settle, and the sediment is removed with care. The glycerine and water used must be free from lime, or the soap will be always milky. The lye should be made from 76 per cent. caustic soda; and if the foregoing rules be adhered to a perfect soap will be obtained.

Another, slightly different, recipe will give a transparent soap of the same quality, namely: Tallow, 21,500 parts; cocoanut oil, 19,000; palm oil, 2,000; castor oil, 27,000; 35° B. caustic soda lye, 40,000; glycerine, 4,000; sugar, 20,000; common salt, 7,000; water, 20,000 parts.—Rev. Prod. Chim.

The Refractive Index of Essential Oils.

BY ERNEST J. PARRY.

The refractive index of essential oils has long been put on one side as not affording information commensurate with the trouble involved in its determination.

In many cases there can be no doubt that this is the only conclusion one could arrive at, as, for example, the oils of the citrus family. The following are figures obtained for normal samples of lemon and orange oil, to-

gether with those of turpentine and lemon terpenes. (All determinations are for D. line at 20° C.)

Oil of Lemon.	Oil of Orange.	Turpentine.	Lemon Terpenes.
1.47575	1.47350	1,47059	1.47458
1.47485	1.47460	1.47208	1.47521
1.47448		1.47200	
1.47385			

It is clear that nothing more than a vague indication can be obtained in cases of admixture with large quantities of either lemon terpenes or turpentine of either lemon or orange oil.

A direct determination of the refractive index on many essential oils will lead to identical results, although there are cases where very clear indications, not only of adulteration, but also of the adulterant, may be obtained.

It is, however, not until the oil is fractionated and the fractions of fairly constant properties are thus examined, that the full value of the refractive index is rendered apparent.

This is easy to understand, as the oils themselves are not constant mixtures, and may have practically identical refractive indices whilst being of very different compositions. But fractions obtained at definite temperatures are to be expected to have fairly constant characters, and an examination of a fractionated oil will often lead to very useful results.

The great value of the refractive index of essential oils when appreciated in this way has been emphasized by Burgess and Child on several occasions, and quite recently Umney, Bennett, and myself have used it to very great advantage. The recent papers on citronella oil and peppermint oil, published by Bennett and myself in the Chemist and Druggist, have demonstrated the valuable information which has thus been obtained. In the latter case, a body which, I think I may say, we could not identify for some time, was found in the later fractions of the oil. We found, however, that it had a refractive index of over 1,5000, and were by this means able to place it in a very limited group of bodies, and finally to decide by further examination that it was African copaiba oil.

The object of the present note is merely to draw attention to the value of the refractive index when used with discretion, and not to publish a set of constants. Later I hope to publish a series of figures which will assist in demonstrating where this figure is, and where it is not of value, and figures from other observers will be welcomed.

In several other cases I have found it of much value, amongst which is otto of rose. Here the fact that geraniol and so-called Indian or Turkish geranium oil have much higher refractive indices than otto of rose (or citronellol) enables one to use the determination to advantage. The following figures represent (1) Five samples of pure otto of rose of this season's crop; (2) two samples of commercial geraniol; (3) four samples of "Turkish" geranium oil; (4) two samples of citronellol:

Otto or rose, pure,
1.46190, 1.46095, 1.46148, 1.46145, 1.46208.
Geraniol,
1.47923, 1.47995.
Turkish geranium oil,
1.47602, 1.48055, 1.47958, 1.47850.
Citronellol,
1.45718.

Several commercial samples had refractive indices of 1.46700 to 1.47100, and are at least open to very grave suspicion. I propose to return to this subject very fully in the course of a few months.

Potash Industry In Hanover.

In his report for last year, H. M. Consul states that marked steadiness has characterized the potash trade, as most works that are capable of producing this substance have been admitted into the syndicate, and thus enabled the energy of all interested to be devoted to the sale of their over-production. There is a prospect of far more important sales in this year than in the past. Foreign countries, whose interests in this business exercise a considerable influence, have not as yet made any extensive acquisitions; this year will probably prove decisive for the fate of this industry. It becomes clearer and clearer that the consumption of potash salts is capable of considerable development in all parts of the world. There is, however, a limit to the capabilities of production, as what are now regarded as the productive districts will have been exhausted in a few years. A concentration of all existing interests with a discontinuance on the part of the older concerns to damage those of more recent date cannot fail to establish this industry on a firm footing.

The Average Druggist's Educational Idea.

"Well, how is soap?" "S—sh, not a word, my boy!" replied Average Druggist, with a wink, as he passed out a handful of 10-cent straights, "I'm afraid I've overdone the thing—I've sold so much soap this last three days that my neighborhood won't need any more for a year or two." "Oh, yes, I guess I'll sell some more," he said, cutting off some consoling remarks, "the only point that is worrying me is the lot of money I have lost in not doing long ago and every day, plain-as-daylight way of advertising myself and my goods as this—Why, the thought is awful! The scheme worked all right! Surprising how people can be interested in soap. One old

lady bought two dozen cakes to take to her son who lives in the country somewhere, where she goes every summer. I can't begin to tell you how many people have thanked me for telling them what good soap should and what cheap soap is and is not. I believe I can detect a new shade of deference in my customers, as if they recognized that they were getting their soap from an expert. Oh, you needn't grin.

"I may be a bit enthusiastic, but all the same, I am satisfied that I am on the right track. From now on I'm going to quit worrying about cut-prices, patent medicines and such like and put in my time studying up how to tell people that I've got the best stuff they can buy for their money. It's the whole science of pharmacy made into a dollar-making proposition, all the old things I learned at college—and promptly forgot—about where things come from, how they are made and what they are, will be worth money to me if I can work this thing out right. And there's no price-cutting or throat-cutting competition, it's professional, strictly professional, my boy, to know the whys and wherefores of your stock, and mighty good business to make people know you know it by simply letting them see for themselves.

"I've elaborated on my idea, my scheme really involves educating customers up to knowing what is good and why it is good and why it is cheaper all around to pay a fair price for good quality and the harm that comes from 'cheap' drugs and such like. The fact that my first venture has been a success—I've sold more soap in a day than I ever sold in a week before—doesn't fool me into the belief that I'm going to do a land-office business in everything I take up no sirree. I am looking to the future for my real reward; I'll be satisfied if my extra sales during my early period pay for the work and advertising. I have studied the thing out and my conclusion is that with a drug store at every other corner and all down to rock-bottom prices there's no show for a man making more than a living unless he gets a trade that will buy good stuff at good prices and plenty of it. I believe that there are lots of people who have the money to pay for first-class articles and who would buy nothing else if they only knew what was first class and the danger and wastefulness of cheap trashy stuff, and I believe that I can get a good big share of this kind of trade by convincing them of the facts underlying my scheme. I know I can't lose money by it. I have time and material for working out my ambition—to be the druggist of this neighborhood. Maybe I'll do better than just local fame, but this is a big city—wish I had a store in a small town—that is the real place to work out my scheme properly. There wouldn't be any 'mail order nightmares' for me."

"What about being called an expensive store? Say, that doesn't worry me a bit. My idea is to tell people all about my goods and convince them that I am a druggist who knows his business thoroughly, knows what is best and gets the best for his trade because he knows how to do it, and gives his customers the benefit and protection of his knowledge—then let prices take care of themselves.

"Well, I supose you think I've got connected with my gas generator, old man. I'm enthusiastic. Now, here is what I am going to do next week. My soap is doing so well I'll let it run until Saturday, and take up toothbrushes as a logical sequence. Then after that, I'll get on to the topic of dental washes, powders, etc., in fact, I've a whole six months' campaign worked out. You see I will have to read up pretty thoroughly on my subjects so I can tell my public about them intelligently, and that means mapping out definite plans ahead. Now here is what I am going to say about toothbrushes——. Got to go, eh? Well, drop in next week."—Pharm. Era.

Formation of Vanilla.

Lecomte (ourn. de Pharm.) states that vanilla beans contain two distinct ferments, one of which brings about hydration, and the other oxidation. Vanillin is probably formed as follows: The hydrolizing ferment decomposes the nascent coniferine into coniferylic alcohol and glucose. The coniferylic alcohol is then transformed into vanillin by the action of the oxydase present.

Oil of Elaeococca.

A natural drying oil which is obtained in China and the surrounding countries is the oil of Elæococca. This oil is extracted from the fruit of the oil-tree (E. vernicia, cordata, or verucosa) which belongs to the Euphorbiaceæ. This tree grows in China, in the south of Japan and in Cochin-China. The oil is extracted from the fruit by pressing it when cold, and 100 parts of the fruit give about 40 parts of oil. When pressed hot the yield of oil is somewhat larger, about 50 per cent., but its composition is modified and it is strongly colored. This oil was imported into Europe for the first time in 1874. It was first studied by Cloëz and after that by other chemists who determined its composition and examined its curious properties. It has a density of 0.940 at 15° C., and its color is golden yellow. When freshly prepared it is inodorous, but after a time it gives off a characteristic odor which somewhat resembles that of castor oil of an inferior grade. Its freezing point depends upon whether it has been freshly prepared or not, and varies according to circumstances from —3 to —20° C. It is soluble in the usual solvents for fatty substances, except alcohol, which must be boiling to dissolve it. The oil has 72 per cent. of fatty acids and it can be completely saponified. Below 18° C. it is very clear and limpid, but

above that temperature it tends to thicken without losing its transparence. One of its curious properties is that of solidifying when heated to 200° C. It then assumes a jelly-like appearance. This phenomenon is due to an absorption of oxygen from the air. On the contrary, when this temperature has not been reached and when the oil is heated for some time at 180°, it loses the property of solidifying at 200°, as its chemical constitution is absolutely modified.

The most useful property of the oil is that it is a natural drier, and this property is strongly marked. It is due to the absorption of oxygen from the air. This oil is a better drier than all others known, and when spread upon a polished surface such as glass it quickly solidifies in the form of a colorless film. When placed in a sealed glass tube and exposed to sunlight it is transformed into a solid mass whose melting point is 32° C. The oil is a highly refracting body and it seems that the shorter wave lengths act to cause the transformation. In China and Japan it has been used for a long time past to cover the wood which is used for boat building and like purposes. A fine varnish is made with it which dries quickly and has a brilliant luster. The French consul at Canton states that it enters into the composition of Chinese lacquer. Besides its use for varnishes, it is also employed for waterproofing different fabrics. In Europe it has often been substituted for linseed oil for obtaining certain varnishes. When treated by litharge and then dissolved in turpentine an excellent varnish is obtained which is quite transparent, and this without the addition of resin. As linseed oil is generally of a dark color it is difficult to prepare light colors or varnishes with it, and therefore the use of this oil is to be recommended. In China, Japan, and Cochin-China, the annual production is about 2,800 tons. It is exported to Germany, America, and England, but it is only since 1896 that it commenced to be exported in considerable quantities. In 1897 the exportation to the three countries mentioned above was about 70 tons.

Bay Rum Drunk.

Bay rum or wood alcohol, or a combination of the two, caused the death of a party of festively inclined citizens some days ago. It was on a dry Sunday, and a barber being in the party bay rum was secured as a moistener. This, supplemented with methyl spirit, so the press dispatches inform us, was sufficient to prevent the opening of the barber shop the next day, but caused the undertaker to do extra work. In time, it is believed, jag artists will learn to confine themselves to proprietary medicines when the great thirst overtakes them in desert places.—Southern Drug Journal.

To Prove the Presence of Mineral Oil in a Suspected Vegetable Oil.

Place a piece of caustic potash (a portion of stick potash one inch long) in a test tube five inches long by ¾ inch wide. Pour in methylated spirit to just cover the potash, and heat till dissolved. Now add 10 to 15 drops of the oil under examination and boil gently for 5 minutes. If any minute globules of oil are seen floating about continue the boiling for a little. Have ready a clean glass jar or vessel containing 4 to 8 ozs. of *distilled* water and into this pour in a thin stream of potash and oil solution. In the case of pure vegetable oil free from mineral oil, the oil and potash solution will dissolve in the water forming a clear solution of yellow tint, but if the mineral oil is present the water will become milky or cloudy and globules of mineral oil will gradually collect on the surface. This is called the saponification test.

PATENTS AND TRADE-MARKS.

The following list of recent Patents and Trade-Marks is reported by W. G. HENDERSON, Solicitor of American and Foreign Patents and Trade-Marks, Norris Bldg,, Washington, D. C. A copy of any of the following will be furnished by him for 15 cents.

PATENTS.

740,387. Making soap cakes provided with inserts. Washington Berry, assignor to Berry Buoyant Soap company, Chicago, Ill.

740,440. Soap cake. Ruel A. Jones, Stanford, Ky.

TRADE-MARKS.

41,191. Perfumery. Frederick Stearns & Co., Detroit, Mich. The word "Eudora."

41,192. Soap. The Eddystone Manufacturing Co., Philadelphia, Pa. The word "Calico."

41,193. Toilet Soap in Liquid and Solid Form. George A. Schmidt, Chicago, Ill. The word "Asage" in connection with the figure of an old man in cap and gown, indicative of a sage, and on whose gown the words "A Sage" appear.

41,234. Candles. De Roubaix, Oedenkoven & Co., Borgerhout, Belgium. The representation of a rectangular panel with a balloon therein and a smaller panel above the balloon and the representation of a city, ships, and water below the basket of the balloon and a light below said basket.

LABELS.

10,399. Title: "Forest Park Boquet Perfume." (For Perfumery.) R. & F. Schweickhardt, St. Louis, Mo.

PRINTS.

841. Title: "Hasn't Scratched Yet." (For Scouring-Soap.) The Bon Ami company, New York, N. Y.

842. Title: "Hasn't Scratched Yet." (For Scouring-Soap.) The Bon Ami company, New York, N. Y.

AROUND THE SOAP FACTORIES.

News-items sent us by our readers will find prompt attention in this column

The Pacific Coast Borax Co. has commenced the construction of a four-story soap factory, 100 x 175 feet, alongside its borax plant at Bayonne, N. J. The manufacture of laundry and toilet soaps will begin about January 1st.

P. C. Tomson's soap factory at Philadelphia had a little blaze last week which was quickly extinguished before much harm resulted.

P. E. Weiberg, until lately soap maker for the Nelson Mfg. Co. of Iowa City, Iowa, has taken a position with the Standard Soap Co. of San Francisco, Cal., to superintend their new milled toilet soap department. Our best wishes follow him to the coast.

The Akron (Ohio) Soap Co. has been adjudged guilty on the charge of "receiving and rendering offensive material."

The U. S. Soap Mfg. Co., the incipient soap trust you have heard about, with its factory located at Lodi, N. J., is involved in a law suit. The Herman Boritz Co. has applied for an injunction, averring that the plant at Lodi, of which they are the mortgagees, and which they lease to the defendants, is being neglected. The soap company denies the allegations. Whether it "can lick the alligator" remains to be seen.

A great flood at Passaic, N. J., demolished complete the building and entire plant of the Passaic Soap Co. in the early part of last month.

Monroe W. Lauer, secretary of Magnus & Lauer, of New York, died on October 13 of typhoid fever, after a brief illness, and at the age of only 28, almost at the beginning of what promised to be a bright and most successful business life. His early demise is deeply regretted by the trade.

Anton Heusler of this city has been served with a temporary injunction, returnable the first Monday in November, restraining him from using labels on perfume resembling those of Johann Maria Farina of Cologne, Germany. The bill of complaint alleges that Heusler has fraudulently and unlawfully sold an inferior grade of cologne under labels and circulars, which are alleged to be duplicates of those used by the German firm. Copies of the genuine and alleged fraudulent labels are annexed to the complaint.

Plans have been completed by the W. J. Bernard Co., Inc., soap manufacturers of Seattle, Wash., for the erection of a large soap manufacturing plant on block 229 in the Seattle Tide lands. The new factory will cost $6,000.

R. C. Peddicord and Fuller Hess have purchased from Hon. Mills Gardner the Ludlow Soap factory, at Washington C. H., Ohio, with the coal business in connection with it. The factory has been established for about seventeen years, for the last twelve of which it has been owned by Mr. Gardner. The new owners, who are men of capital and hustling business methods, design to extend the business over a much larger territory than it now covers.

Incorporated: The National Commerce & Import Co., New York; deal in soaps, perfumes, etc.; capital, $100,000. Incorporators, Andrew E. Pritchard, George H. Lambach and George C. D'Orsay.

A delegation of residents and property owners went to the city hall of New Orleans last month and made inquiries regarding the ordinance granting permission to George E. Booth to erect and operate a plant for the manufacture of soaps at Orleans street and Carrollton avenue. The citizens were anxious to learn when the measure would be considered by the committee, as they were desirous of appearing before it and ascertaining just what Mr. Booth proposes to do, and what kind of an establishment he proposes to erect, and other matters in connection therewith.

The plant is to be operated by steam and the ordinance in its present shape makes the privilege revokable at the pleasure of the council.

The College City Soap works at Galesburg, Ill., have filed papers to increase the capital stock from $5,000 to $25,000.

Incorporated: The National Refining Co., of New York City, to manufacture products of fats, greases and oils. Capital, $100,000. Directors, William Logie, of Montclair, N. J., and R. D. Farquhar and Edward Shaw, of New York City.

The Richards Pure Soap Co., of Woodstock, Ont., have opened a branch storehouse at Montreal, to act as a distributing point for Quebec and Eastern points.

From English papers we learn that at this year's Grocery and Oil Traders' Exhibition, held annually in London, one American and four English soap manufacturers were represented by exhibits of soap. The American firm was Armour & Co., whose exhibit of toilet soap is the subject of very complimentary remarks on the part of the English press.

The Toledo, Ohio, Rendering and Fertilizer Company is a new corporation under the laws of Virginia. The company is capitalized for $100,000. It will take over the Bucyrus plant and move it to Toledo. The grease of the garbage will be turned into soap stock. The incorporators are: Isaac Gerson, R. W. Wallace and Cr. R. Clapp, of Toledo: E. J. Potter and J. T. Washburn, of Bucyrus.

The Granite City Soap Company, of Portland, has voted to decrease the number of its directors from thirteen to nine.

The Gilmore Corrugated Soap Co., which has leased a manufacturing property in Avon, Mass., has arrived there with a carload of machinery from its Cambridgeport plant, to be installed in its new location.

Martin N. Risser is expected to shortly erect a phosphate and soap factory at Elizabethtown, Pa.

We just learn, to our genuine regret, that death some time ago claimed Henry Metz, one of our old-time subscribers at Amana, Iowa.

Mr. Metz was soap maker for the "Amana Society," an institution as famous in some respects as it is unknown to probably a great many readers. We know little enough about it ourselves, but understand that the Amana Society is a community occupying a certain township in Iowa and organized partly on religious and partly on communistic principles. It is an old and flourishing corporation, the members of which live largely cut off from contact with the outer world, leading a quiet, frugal, and very honest life. In an old volume of a German paper (Die Gartenlaube) we saw an account of the emigration, long ago, of this society from Europe to America, under the leadership of Henry Metz—a namesake and probably, therefore, an ancestor of our now deceased subscriber.

The deceased was the soap maker for this society and we shall miss his name among those of our readers.

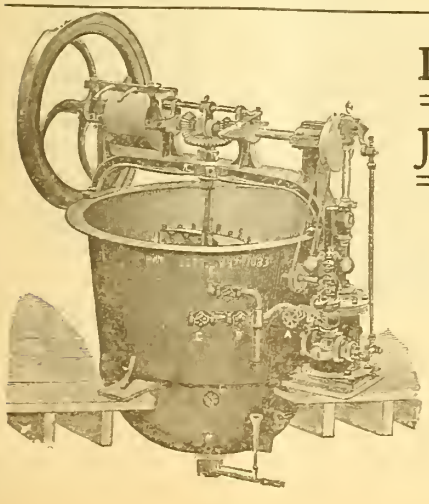
Incorporated: The Allen Soap Company, at Lexington, Ky., to manufacture soap. Capital, $12,000. Incorporators: F. A. Bulock, John Skain, C. W. Miller, Louis des Cognets.

The Petro Pine Company, at Jersey City, N. J., has been incorporated to manufacture ointments, tar soap, etc. Capital, 50,000. Incorporators: L. B. Dailey, B. B. Lewis, K. K. McLaren, all of Jersey City, N. J.

The Cudahy Packing Co., of Omaha, has succeeded in obtaining from the Treasury Department the preparation of regulations, allowing of drawback of duty paid on crude glycerine exported again after refining in this country. On the exportation of refined glycerine made from imported crude entirely, the duty paid (less 1 per cent.) will be allowed on drawback.

The newly incorporated Allen Soap Co., at Lexington, Ky., have elected officers as follows: John W. Masner, president; Charles W. Miller, vice-president; John Skain, secretary and treasurer; E. J. Allen, general manager.

This firm succeeds Allen & Thompson and expects to increase its capacity by new machinery. The old firm was established as long ago as 1837, and, therefore, the



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oldest business concern in Lexington. It was originally organized by Messrs. Geo. Shely and Henry Hardesty, the latter being the father of D. L. Hardesty, one of the incorporators of the company.

"Prominent soap manufacturers of New Jersey are negotiating for a factory site at Uxbridge Mass., with a view of establishing branch works to supply their New England trade.

Mr. Moulié, we find, has been far more seriously ill than our first reports gave us to understand, but he is just about able to be around again and already strong enough to at least plan for renewed work, though its execution will have to await some further recuperation on his part.

The Lake Superior Soap Co., at Houghton, Mich., has secured the order for a carload of soap to be furnished for use at the Insane Asylum at Pontiac.

Concerning the proposed scouring soap factory of the Tripoline Mfg. Co., at Beaumont, Texas, a local paper has the following to say (among many other things):

The following Beaumonters have become identified with the enterprise and it could be safely called a Beaumont industry: F. E. Carroll, president; Walter J. Crawford, vice-president; J. L. Cunningham, treasurer; Lewis H. Scurlock, secretary, together with Sam Park, George W. Carroll, T. V. Smelker, R. S. Waite and E. A. Luck, forming the board of directors.

The general offices and factory of the company will be located and the army of salesmen employed will travel out of Beaumont. Plans have already been drawn up for a four-story factory plant, and construction will begin within about thirty days. It is estimated that it will take about sixty days to complete the building and install machinery after the work is started. Pending the erection of the plant the company has leased a building on Washington street which will be used to manufacture samples until the main factory is completed. It is also their purpose to thoroughly sample the southwest from this temporary factory. The factory will have a capacity of 32,000 cases a day.

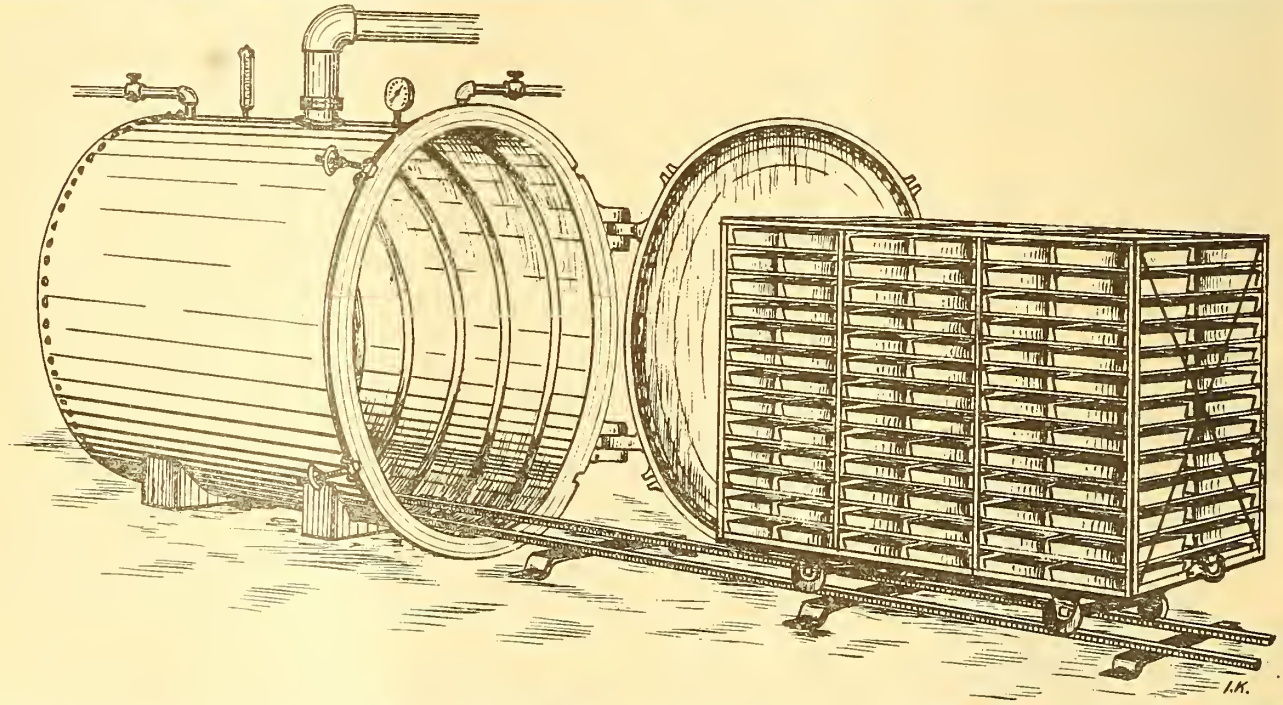
(May we assume that 32,000 cakes are meant by the 32,000 cases?)

Additions to Our Brand List.

347 Lockwood Soap Co., Kansas City, Mo.

Marigold 106
Sunburst 106
Gasene 106
Yellowstone 106
Top Notch 106
Milo 106
Polar Bear 106
Brightshine 106
Home Pride 347
Ammonaptha 347
Tar Egg 347
Cream Naphtha 343
Veribest 286
Bestever 286

VACUUM DRYING APPARATUS--FOR SOAP, &c.



AMERICAN VACUUM DRYING MACHINE CO., NEW YORK OFFICE 120 LIBERTY ST.

SUPPLEMENTARY LIST

OF THE

BRANDS OF SOAP MANUFACTURED IN THE UNITED STATES

Including also the Brands of Foreign Manufacture Registered as Trade-Marks in this Country.

NOTE: This list is compiled with the greatest possible care, but the publisher does not assume any responsibility other than to correct and to complete the list according to data obtained from official sources or furnished by the trade. Brands registered in the patent office as trade-marks or labels are given with the name of the party registering same. Brands or names marked * are those which were found to be used by more than one firm or the owner of which could not be ascertained. ☞ SEE THAT ALL YOUR BRANDS ARE ENTERED IN YOUR NAME.

3—Liberty Mfg. Co., Chicago.
344 Home Soap Co., N.Y.
345 Columbia Ref'g. & M'f'g Co. Ltd., New Orleans.

Ahrado, Floridine Mfg. Co., New York.
A Happy Home 4
Alabama Tar 3
All-need it 286
Amazon Coco 337
Amber Rose 346
Anchor Castile 3
Angelus 54
Antelope 3
Antillia 2
Anty Up 340
Apple Blossom 337
Atoka 346

Baby Mine 8
Bannock 3
Beauty Belle 151
Beanmont's Shaving 346
Beef Oil 340
Bell's Brown 343
Bell's Naphtha 343
Ben Hur 3
Bicycle 3
Big Glycerine 3
Billy-Goat 340
Blossom Bouquet 3
Blue Chip 340
Blue C oud 2
Blue Coco 340
Blue Family 340
Blue Monday 340
Blue Olive 340
Boast 3
Botica Francisca 3
Bonquet Chic 3
Bouqnet Reverie 3
Brazilian Bath 3
Bunny—Hewitt Bros. Soap Co. Dayton, Ohio.

Calcutta Castile 337
Calumet 3
Camille 3
Ceske Slovonsky 3
Ceske Polski 3
Chlorine 340
Cleaneasy 286
Climax Chip 54
Cloth Pin 340
Cloths Pin 340
Coa Nut 346
Coca Foam 3
Colnmbia 3
Conto & Elroy Castile 9
Credential Shaving Stic. 6
Crown Princess 337
Crystal Honey 346
Crystal Sulphur 3
Crystal Palace 3
Crystal Transparent Tar 3
" " Carbolic 3
Cuban Rose 3
Cuta Alba 3
Cultoderma Medicated 3
Cycle 3

Dactylis 11
Dermicura 327
Diadem 3
Druggist's Transparent 3
Dr. Allens Medicated 3
Durango Best, Durango (Colo.) Soap Co.

Elk's Bouquet 346
Empress Eugenie 115
Empire Geranium 337
Eucryl Encryl Ltd., Hull, England.
Enreka 3
Evergreen 286
Expert 286

Facine 340
Fairbank's Primrose 2
" Scouring 2
" German Fam. 2
" Glycerine-Tar 2
" Mottled Germ'n
" Olive 2
" Navy Blue 2
Federal Family 1
Floral Feast 115
Flannel 2
Flip 345
Force, Cincinnati Soap Co., Cincinnati, Ohio.
Fragrant Honey 2
French Violette 3
Frog 340

Gem Wash. Compound, Clara Pearce, Philadelphia.
Georgia Oleine 29
Geronne Violette 3
Geyser 343
Giant 3
Gloriola 29
Glycerated Tar 346
Glycerderma 3
Golden Rose 3
Gold Seal Soap Flour 340
Goodhair, Goodhair Remedy Co., Newark, Ohio.
Green Olive Chip 340
Green Palm 340
Green Seal Chip 340
Gusher 340

Hard Maple 155
Heliotrope Blanc 3
Heliotrope Ideal 334
Helix 54
Hi Lo 96
Home Castile 3
Horse Oil Harness 340
Hots Springs Bath 3
Hy-Lo 96

Ideal Bonquet 3
Ideal Family 3
Idyllwild 54
I-Lika-U 286
Ilo-Ilo 340
Imperial Crown 3
Iroquois Maiden 115

Jack & Jill 340
Jack Pot 340
Japanese Bath 3
Jerone Bouquet 3
Jewel 2
Jus de Framboise 3

Kaska Bouqnet 346
Kazan 343
Kimola, Bell Mg. Co., St. Lonis, Mo.
King Solomon's Rock Oil S. Mnross Jenkins, N. Y.

Lakeside (Scouring) 2
La Mariposa 54
Lamsuet 3
Lasco Napthol 54
Last Long 286.
La Virtho, John S. Nichols, New York.
Le Fameux 16
Le Fameux Rose de Seville 16
Le Famenx Violette de Sevill 16
Le Fameux Peau d'Espagne 16
Le Fameux Jockey Club 16
Lemola Toilet, Lemola Soap Co., Los Angeles, Cal.
Lemolive 54
Lemonine, E. H. Kraut, Cincinnati.
Lettuce Cream 3
Libertys London Transparent 3
Liberty's Quartette 3
Liberty's Genuine Bouqnet 3
Limberine, E. A. Warren, St. Paul, Minn.
Lion 2
Lisette 3
Little Sweetheart 346
Llama 3
Long Shot 345
Lotus Bouquet 3
Lotus Honey 3
Lotus Glycerine 3

Madeira 16
Madeira Almond Cream 16
Madeira Cucumber Cream 16
Madeira Lettnce Cream 16
Madeira Olive Cream 16
Marjorie 337
Marveline 300
Marvelo, Natioval Process Co., Rochester, N. Y.
May Field Bonqnet 346
kina Skin 346
Maxine Elliott 337
Medical Lake 3
Medicated Witch Hazel 3
Mentholatum Corn Oil S. 169
Mexicano 54
Michigan Family 2
Mildred 337
Millens Cream 3
Millens Toilet 3
Millens Antiseptic 3
Millens Tar 3
Miners Tar 3
Milk Bath 3
Monroe 3
Moss Rose Borax 3
Mox-Nix 340

Naphtha Toilet 340
Naphthal 340
Napthol 340
Naptholive 340
Naptha Washing Powder—Hunt Mfg. Co., Cincinnati, Ohio.
Natnral Gas 340
Next-To. Phoenix Chem'l Co. New York.
Nolabor 340
Northern Star 3
Noxlabor 340
Noxwork 340
No. 81 White Rose Glycerine 3
No. 3725 White Rose Glycerine 3
No Name 3

Old English Brown Windsor 346
Old English Blue 3
Old Linen 3
Old Time Tar 3
Olive Bath 3
Orinoco 337
Orris Unscented 337
Otis Lightning, C. H. Waterhouse, Essex, Conn.
Our Baby's Bath 3
Our Own 3
Our Special 3
Oxolive 340
Oxigen 340
Ox Oil 340

Palmo 340
Palm Oil S. Powder 340
Palm Soap Flour 340
Parisian Toilet 54
Passion Rose 298
" Violet 298
" Pink 298
" Lily 298
Peace 340
Peach Blue 340
Peerless Country Club 337
Peerless Forest Violet 337
Peerless Lily of the Valley 337
Peerless New Mown Hay 337
Pen Yen 340
Perfecto 121
Plantol Lever Bros., Limited Port Sunlight, England.
Poncine Erasive 3
Pony Up 340
Popular Blossom 3
Premium, Davenport (Iowa) Soap Co.
Premium W. Powder, Davenport (Iowa) Soap Co.
Preventionette, Willard Chemical Co., Malden, Mass.
Pure Large Oval 3

Queen Complexion 3
Quick and Easy 56

Radiant Violet 3
Red Raven 346
Reve d'Amour 3
Rex Cremo 340
Rex Family 340
Rex Liquid Soap 340
Rexolene 340
Rexolive 340
Roekford Scouring 2
Romola 3
Rose d'Or 3
Rose Glycerine 3
Rose Immortelle
Royal Lily 16
Rubbo, Lever Bros., Limited, England.

Safeguard Carbolc 53
Samson's Transparent Tar 3
Sandalwood 3
Sani-Tari Skin. Citizens Wholesale Snpply Co., Columbus, O.
Santa Rex Castile 2
Saner's Complexion 3
Savon White Rose 3
" Jockey club 3
" Violete de Parme 3
" Hyacinth 3
Savon Carnation 337
Savon Heliotrope 337
Savon Lilac 337
Savon Qneen Regent 337
Savon Quo Vadis 337
Savon Rose Marechal Niel 337
Savoy Alpine Violet 337
Savoy Carnation 337
Savoy Jockey Club 337
Savoy Primrose 337
Sayf Syde, Sayf-Syde Soap Co., Cincinnati.
Sentinel 340
Sentry 340
Shampoo Tar—Brown Soap Co. Dayton, O.
Snow Violet 3
Solos Laundry, Nelson Mfg. Co., Iowa City, Iowa.
Sorosis 340
Stainoff, D. M. Steward Chattanooga.
Stainilgo, Kendall-Davis Co, Boston, Mass.
Star Mottled 2
Star Tar 286
Success Scouring Sand Soap Tacony Soap Co., Phil'a
Superior Transparent Glycerine 3
Sweet Blossom 2

Tew-Fer 96
Todc 340
Tonla Toula 334
Town Market 3
Trash Mover 286
Twin 2
Twin Rose 3
Two Jacks 340

Uncle Sam's Floating 120
U-Lika-Me 286

Vegetal Bouquet 3
Vestal Carnation 16
Vestal Lilac 16
Vestibnle 3
Vineta 3
Vinola Cream 3
Violette Grandflenr 334
Violette Revce 3
Violet de Parme 337

Wego 96
Wendela 3
Whale 3
White Fairy 2
White Pine Castile 344
White Rose Glycerine 3
White Rose Honey 3
White Saxony 3
White Wonder 346
Windsor 2
Winner 29
Witch Hazel Bath 3
Witch Hazel Bonqnet 3
Witch Hazel Shaving 3
World's Fair 2
World's Work 53

Yellow Dog 340
Yellow Palm 340
Yellow Rose 3

Zingarella 3
Zo-Zo White Tar 346
Zanette 3

The Latest Complete Edition of Our

List of Soap Brands

was published on Jan. 1st, 1902. All new brands and changes that have been reported since that date are contained in the "Supplementary List" published on another page of this paper.

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Position Wanted by an up-to-date soap maker. Makes all kinds of laundry and milled toilet soaps, floating soap, chips, boiled or on the cold process. Can also handle cottonseed foots or soap stock with best results obtainable. 20 years experience. Best of references. Address: O. P. care American Soap Journal, Milwaukee, Wis.

Position wanted by a practical soapmaker in both toilet and laundry also cold made; recover glycerine out of spent lye and have the kwowledge of soap chemistry. Can give best of references as to character and ability. If interested address : W. X., care of this paper.

A young, energetic man, now manager of a soap company in Canada, doing over 50 per cent. of the textile trade in Canada, desires making a change. Will accept a position as manager or assistant general manager of a concern desiring a capable man who is willing to take hold of anything. Address J. N. W., care of American Soap Journal, Milwaukee, Wis.

An experienced chemist and soapmaker wants a position December 1st. Have had 17 years experience in toilet and laundry soap making, glycerine extraction, etc., and am considered extra good on cotton seed foots soaps. Have been well trained as a soap and oil chemist. A 1 references. Address "Soap Chemist," 2104 West End avenue, Nashville, Tenn.

A chemist and soapmaker wants to make a change. Thoroughly up-to-date on all kinds of soaps, face creams, &c. Best of references, including present employers. Address "Thorough," care of American Soap Journal, Milwaukee. Wis.

Position Wanted: An American Soapmaker, of long experience, skilled in laundry, toilet and textile soaps of all kinds, having now embarked in another business, which occupies about half his time, is open to temporory engagements (say one or two months) in any factory to do any expert work relating to soap. Reasonable terms and highest references. Address: Ex-Superintendent, care of American Soap Journal, Milwaukee, Wis.

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Soapmaker Wanted: Who is thoroughly familiar with making textile soaps for woolen mill purposes; would prefer man who is chemist. Write, stating salary wanted and experience. All correspondence treated confidentially. Address, TEXTILE SOAP, care American Soap Journal, Milwaukee, Wis.

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For Sale: One large continuous Screw Plodder, one set soap Cutting Machines complete, and one Boomer & Boschert Oil Press, used very little and all in very good condition. Cheap for Cash. Address: V. W. care of American Soap Journal, Milwaukee, Wis.

For Sale: Glass moulds (and iron moulds to make them) for moulding cheap toilet soaps. For particulars address: U. S. G., care American Soap Journal, Milwaukee, Wis.

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The American Soap Journal & Manufacturing Chemist.

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DR. HENRY GATHMANN, PUBLISHER. 2707 North Ave , Milwaukee. **MILWAUKEE, WIS., December 1, 1903.** VOL. XIV. No. 4.

THE

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AND

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OFFICE OF PUBLICATION:

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The AMERICAN SOAP JOURNAL AND MANUFACTURING CHEMIST is devoted to the interests of all manufacturing industries of a chemical character, and is an absolutely independent publication. It is the only newspaper of its kind in America and has also a large foreign circulation.

For Subscription and Advertising rates see above.

Communications on industrial subjects, news items, and any information suitable for printing in these columns, are solicited and will have due attention.

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DR. HENRY GATHMANN, Publisher,
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MILWAUKEE, WIS., U. S. A.

The selling of soap, direct "from the factory to the consumer," is assuming larger proportions rapidly. The great success of one house, in the use of premiums to induce the public to buy soap in more than strictly retail quantities, has induced others to enter into similar forms of campaign, so that there are by this time a number of very carefully worked out plans in operation, which hold out to the public every possible inducement to order soap by the box, directly of the factory.

It is no longer the grocer only who can obtain valuable premiums for ordering soap in quantities, but the consumer is induced to earn large premiums by not only ordering his soap by the box, but by becoming the salesman for the soap factory.

But this is only one way of circumventing the jobber and the retailer. Sending agents directly from the factory to the consumer, to sell in box lots, is another. Mail order plans of offering a premium with even a dozen cakes only is still another. And then there is the method of selling through local peddlers, supplied from the factory at a distance.

Altogether a large amount of soap is finding its way to the public through shorter channels than formerly, and if—as seems more than likely—these newer ways develop still further, as they have done in the past, the selling of soap will undergo an evolution that will present quite new problems to the trade.

"A new soap company in Michigan is offering a clear title to a lot in the northern part of the state with every box of soap, up to 15,000, purchased. When the holders of the titles to these lots find them undesirable and not at all valuable they will refuse to pay taxes and eventually they will revert to the soap company."

The foregoing is from an exchange. Did you notice a cog slip?

We learn that at the World's Fair next year there is to be a "Laundrymen's Day" (on Sept 15). This is due to the efforts of President McKeen of the Laundrymen's National Association. The day set apart for the soap manufacturers has not been determined on, so far as we know.

We find a picture in the latest National Laundry Journal, showing the outskirts of a Spanish city, all available space of which, between the scenery, from foreground to

the line of the horizon, is occupied by washed clothing hanging on numerous clothes lines.

The picture is really very pretty and appropriate to the paper printing it, but the best thing about it is the inscription: "A Washout on the Line."

Likewise we learn that the executive committee of the Manufacturing Perfumers' Association is making a concerted attempt to bring about a joint exhibit of perfumes at the St. Louis World's Fair. Definite action will be taken as soon as the exposition representatives will be heard from regarding the space allotted. The negotiations for space will be carried on by Henry Dalley, Theodore Rickseker and R. A. Hudnut.

The late Carter Harrison, for many years mayor of Chicago, left, among other legacies to his children, a great deal of practical wisdom which he took pains to teach his boys. One of his lessons, as nearly as we recollect it from a newspaper report at the time, was: "My son, speak to everyone whom you meet; there is no one so placed, no one so poor, no one so apparently unpromising in useful conversation, but what you can learn *someing* from him."

We recall this saying now, ten or fifteen years after first seeing it in print, on the occasion of seeing the following in the *Pharmaceutical Era:*

"Is your association to have a elam-bake this fall?" was asked of the president of one of the drug associations up the state.

"No, I guess not. No one has started the ball moving and I am tired of getting up everything and doing all the work. I want someone else to do something in association work. I am between the devil and the deep sea. If I am too active, people accuse me of wanting to be 'It' all the time. If I do not take the initiative, then I get kicked for not doing more. No, if we have a clambake someone else will have to get it up. I believe thoroughly in these social recreations as they teaeh druggists that others engaged in the same business are not all rascals, as we used to think. If everything is left to the president of the association, there is apt to be a falling off in interest."

We thought, on reading this, that possibly old Mr. Harrison's advice might have a point even for soap manufacturers. They, also, can profit perhaps by listening to everybody, say a druggist, for instance.

Until a few years ago a very thriving business was done by certain sharp middle men who would buy up at a ruinously low price the entire stoek of grocers and other retailers and sell these stocks to certain department stores and others known for managing extraordinary bargains. Needless to say, the retailers selling out in this way had bought their stock mostly on credit.

Later the state of New York, and after that about twenty other states, passed laws prohibiting the selling out of stocks in bulk in this fashion, that is to say, unless the ereditors are notified of the proposed transaction in time to protect their interests. This improvement has been due largely to the efforts of the New York Credit Men's Association, and the latter has signified its readiness to send a eopy of the law to anyone asking the secretary for it.

After all, there are ways of making the soap business pay. The report of A. and F. Pears, Limited, for the year ended 30th June last, states that the net profit for the year (after carrying £4,765 to depreciation fund) was £54,428, making with the £3,268 brought forward, a total of £57,696. Deducting debenture interest and interim dividends on the preference and ordinary shares, and carrying to reserve fund £5,000, their remains £26,296. The directors now recommend the balance dividend on the preference shares; a dividend for the half-year ended June, at the rate of 12 per cent. per annum, on the ordinary shares, making 10 per cent. for the year, and a dividend for the year at the rate of 2½ per cent. per annum on the deferred ordinary shares, leaving £946 to be carried forward.

In the very largely increased imports into the Philippines during 1903, as compared with the year preceding, the United States have had a reasonable share in many lines. This is not true so far as candles are concerned, these having so far been supplied mostly by Spain and Great Britain. In perfumery and eosmetics the import has *decreased* by about a third, but as France almost eontrols this trade so far, this is of small importance to us. Concerning soap imported the following table speaks for itself:

COMMON SOAP.

	1902.	1903.
Total imports	$3,960	$8,499
United States	1,774	2,489
United Kingdom	390	1,080
China	821	2,544
Hongkong	163	1,584

ALL OTHER SOAP.

Total imports	$25,945	$29,472
United States	9,101	11,025
United Kingdom	7,324	6,990
Germany	2,421	3,646
France	3,333	5,523
China	994	255

One of the most successful and world-famous soap manufacturing concerns has always made it a practice to admit visitors to its works most freely; more than that, it has gone to expense and trouble to *induce* cus-

toners to pay such visits. And what to a great many seems to appear a tremendous risk, has in this case merely led to an increasingly properous business. No valuable trade secrets have been reported missing from these works, either.

A drug clerk in Massachusetts, drinking oil of mirbine by mistake, died promptly thereafter, in spite of an emetic which he took at once on noticing by the taste what he had done. It may be well to recall from time to time the poisonous character of the oil when taken internally.

Last month it was our privilege to acquaint our readers with the discovery of a sea-faring scientist, who published in the London *Times* a statement that he had found all manner of disease to be due to the use of soap!

If this item has done nothing else, it has brought out an enormous amount of comment—more or less interesting.

One paper says: "The outcry against the use of soap which has been raised by a writer in the *Times* calls to mind the fact that a cake of soap once very nearly caused the death of a prominent member of the Argentine government. This official received one morning a box containing what appeared to be a sample cake of some new soap, and the recipient promptly proceeded to use it for the purpose of washing his hands. Suddenly, as the official was rubbing the soap between his hands, a blue flame shot up from it into his face, and then followed a loud explosion. The chief constituents of that cake of soap were dynamite and tar, and nearly ended the existence of the individual to whom it was sent."

Soap of that kind surely is not to be recommended for promiscuous use.

Another paper argues facetiously: "American tramps are supposed to abhor soap, and everyone knows how prosperous they are."

Still another says: "Little Tom, with his dirty face and paws, will hail the announcement with delight. Nature told him from the first that washing was all wrong. What's the use, he wonders. Face and hands will get soiled again in five minutes. Water is cold and soap is slimy, so, why not let Nature have her way and throw soap and water to the dogs or the ducks? Let us get back to aboriginal principles. Savages are hardy and happy, and who ever heard of one taking a bath except for the fun of it in the ocean or the river? It never entered a primitive man's head to bathe for cleanliness. No soap manufacturer ever grew rich in the 'Dark Continent' till the white man, in his degeneracy, went there with his debilitating civilization."

Finally, the London *Morning Chronicle* says: "It is extremely improbable that the letter of a 'Colonist,' regarding the use of soap as injurious, will cause any great drop in the consumption of soap; its use extends over too long a period to be lightly discarded. Pliny is the first to mention soap, and he declares it to be an invention of the Gauls, though he prefers the German to the Gallic soap. It was manufactured in this country in early times, for Richard of Devizes, writing in the reign of Richard I., quotes the words of a French Jew, who wrote still earlier: "At Bristol there is nobody who is not or has not been a soapmaker, and every Frenchman esteems soapmakers as he does nightmen.' In the reign of Edward I. soap was evidently largely manufactured at Coventry, for Robert of Gloucester has the lines:

" 'Soap about Coventry, and iron at Gloucester;
Metal, lead, tin, in the county of Exeter.'

"In London the first soap works was established in 1524, but those persons who travel from Liverpool street to Stratford have reason for wishing that soap making had remained at Bristol. Soap seems to have deteriorated in Elizabeth's reign; historians record that good soap was almost an impossible luxury, and clothes had to be washed with cowdung, hemlock, nettles and refuse soap, than which, in Harrison's opinion, 'there is none more unkindly savour.' In 1711 the government, evidently like Colonist,' thought the use of soap should be curtailed, and imposed a tax of a penny a pound, gradually raising the imposition until in 1816 it stood at threepence. The taxation was abolished in 1853. Was it at that period our degeneracy commenced? There is evidently some great hidden thought in the once popular question, 'How are you off for soap?'"

Receptacle For Feeding Liquid Soap.

(Specification forming parts of letters patent No. 741,981, dated October 20, 1903.)

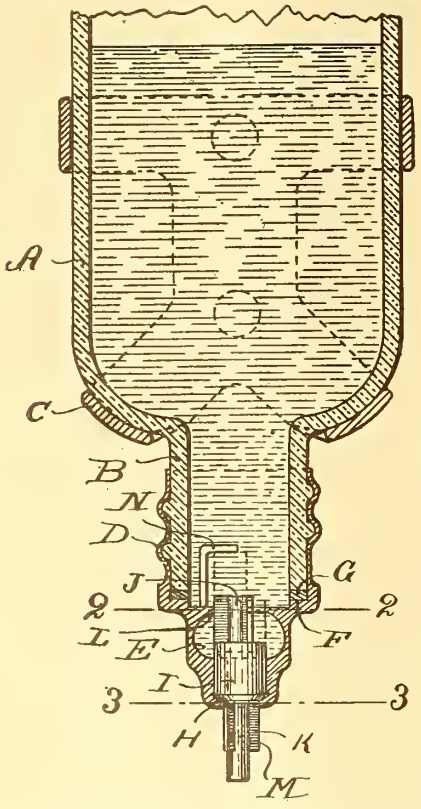
To All Whom It May Concern:

Be it known that I, George A. Schmidt, Jr., a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful improvements in receptacles for feeding liquid soap, etc., and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to a novel receptacle for liquid soap or other liquid, the object being to provide a receptacle having a valve so constructed as to deliver a predetermined quantity of soap each time that it is operated; and it consists in the features of construction and combinations of parts hereinafter fully described and claimed.

In the accompanying drawings illustrating my invention, Figure 1 is a central longitudinal section of a receptacle constructed in accordance with my invention. Figs. 2 and 3 are detail transverse sections on the lines 2 2 and 3 3, respectively, of Fig. 1.

In said drawings, A indicates the receptacle, which may be of glass or any other suitable material, having a contracted neck portion B. The said receptacle A is suitably supported in an inverted position in a holder or bracket C, adapted to be secured to a wall. The said neck portion is externally threaded to receive a sleeve D, carrying a valve-chamber E and having an internal annular shoulder F, between which and the end of the neck portion B a washer G, of rubber or any other suitable material, is interposed. The said valve-chamber E is annularly enlarged between its ends and is provided at its lower end with a valve-seat H to receive the plunger-valve I. The latter is cylindrical and is provided at both ends with valve-stems J and K, the said stem J consisting of a spider having a plurality of arms fitting the opening L in the upper end of the valve-chamber E,



said opening L being of very slightly larger diameter than the valve I and said stem K having three radial arms M, fitting the delivery-opening of said valve-chamber E. The said valve I is of less length than the distance betwen the inlet and delivery ends of said valve-chamber E, so that when said valve rests on its seat, as shown in full lines in Fig. 1, the liquid will be free to flow into and fill said valve-chamber, and when said valve is raised by pressure on the lower end of said stem K to the position shown in dotted lines, Fig. 1, said valve I will fill the opening L and prevent further flow from said receptacle, while the contents of the said valve-chamber will flow into the hand of the operator. In order to prevent constant flow of the liquid by only partially raising said valve I, the lower end of said valve-chamber E above the valve-seat is contracted and made cylindrical, so that said valve fits snugly therein and prevents the flow of liquid until the valve I is raised to such an extent that its lower end is above said contracted portion, in which position the opening L is closed, said valve being of slightly greater length than the distance between the upper end of said contracted portion and said opening L.

In order to prevent the valve I from being raised too far, I provide a stop N, which in the instance illustrated consists of an inverted L-shaped wire mounted in the annular shoulder around the said opening L and projects into the path of the valve-stem J.

My said device will obviously feed a pre-determined quantity of liquid at every operation and is exceedingly simple and durable in construction and readily cleaned.

To refill the receptacle A, it is removed from the bracket C and the sleeve D removed.

I claim as my invention:

1. In a feeder for liquid soap and the like, the combination with a receptacle, of a chamber at the lower end of same, inlet and delivery openings at opposite ends of said chamber, a cylindrical valve in said chamber alternately controlling both said openings, valve-stems at both ends of said valve passing through said openings, and guide-ribs on said valve-stems engaging the walls of said openings to guide said valve in its movements.

2. In a feeder for liquid soap and the like, the combination with a receptacle, of a chamber at the lower end of same annularly enlarged between its ends, an inlet-opening at the upper end of said chamber, a delivery-opening at the lower end of same of smaller diameter than said inlet-opening, a cylindrical valve in said chamber alternately controlling both said openings and corresponding in diameter with said inlet-opening, a stem on said valve projecting through said delivery-opening, and means for guiding said valve.

3. In a feeder for liquid soap and the like, the combination with a receptacle, of a chamber at the lower end of same annularly enlarged between its ends, an inlet-opening at the upper end of said chamber, a delivery-opening at the lower end of same of smaller diameter than said inlet-opening a cylindrical valve in said chamber alternately controlling both said openings and corresponding in diameter with said inlet-opening, valve-stems at both ends of said valve projecting through said openings, and guide-ribs on said valve-stems engaging

the walls of said openings to guide said valve in its movements.

4. In a feeder for liquid soap and the like, the combination with a receptacle, of a chamber at the lower end of same, an inlet-opening at the upper end of said chamber, a delivery-opening at the lower end of same, of smaller diameter than said inlet-opening, a cylindrical valve longitudinally movable in said chamber and corresponding in diameter with said inlet-opening, a cylindrical passage in said chamber above said delivery-opening in which said valve is adapted to fit, and means for operating said valve, said valve being adapted to close one of said openings when the other thereof is uncovered.

In testimony whereof I affix my signature in presence of two witnesses. GEORGE A. SCHMIDT, Jr.

(Additional patents concerning this apparatus are pending.)

Naval Stores Matters.

Jacksonville, Fla., Nov. 23, 1903.

Editor American Soap Journal:

In your last issue you publish what can be called the "Consumers' Report" at the convention held by the Paint, Oil and Varnish Manufacturers, and some discussions bearing on the naval stores situation. That milk-and-water report gives a very slight idea of what the situation really is and affords very little hope for relief.

The convention here held by the Turpentine Operators' Association on the 10th of September last, is full of matter of interest, and had it not been for my serious illness I would have supplied you sooner with important information, but it is not too late yet.

The most important question on the slate was the organization of a Tank and Warehouse Company. The object of that organization was, *and is,* to store away large quantities of naval store products when the market quotations should fail to reach the prices *wanted* by the producers (and they *nearly all are part and parcel* of the more than twin corporations, the Turpentine Operators' Association and the Consolidated Naval Stores Co.), until the buyers *behave* and are willing to submit to that cornering in paying three times the *real value* of the goods. In fact, these corporations are but one, and they both own the "Weekly Industrial Record," their organ. They own also the editor and manager of that paper who (so he declares) will fight to the death against anything or anybody that dares to attempt, do, or say anything against the views and opinions of the producers, adding poetically, "the consumers be hanged."

Well, the "Operators' Tank and Warehouse Co.," with half a million dollars capital stock, was organized in Jacksonville on the 19th of this month, and the application for the charter was also made. Now, between the two fires; reduction of production, and the cornering of the greater part of that production at the sweet will of these manipulators, whose audacity is equal to their conceit, and, it must be owned, to their strength, the consumer can expect a lively time. It is quite amusing to hear them claim purity of products and boast of their Florida and Georgia laws against adulteration. I wonder if any consumer is taken in by these "farcical" measures. I wonder if anybody will believe that these measures will prevent adulteration. But what about the wilful, deliberate adulteration at the still? Do these captains of industry(?) pretend to produce pure spirits of turpentine with two and a half or three barrels of trash of repulsive and often poisonous nature, introduced into the still with the gum? Do the consumers realize what that means in connection with the internal use as medicine of such a product? Do the consumers know that even rectification of such spirits cannot eliminate these impurities? I would rather take internally, spirits which I knew were adulterated with kerosene only, than the one without kerosene but with the impurities mixed with the gum and distilled with the latter; the risk would be less. Law or no law, dear consumers, you will have for a long time the enjoyment of both the adulteratives pointed out. You cannot expect that people who have surrendered their industrial manhood into the keeping of some smart leaders who do the thinking for them, to correct the evils pointed out. Where is their industrial pride, if they had any before they made abnegation of their self-will? Do you think that they are going to try to make better products, when they know that the improvement will not be noticed and their products mixed up with others of less value? It is not to be expected and naturally it will be in the future as in the past—the production of *impure* spirits of turpentine—unless the impurities are eliminated before distillation of the gum, and, as it is not to be expected that that elimination will be made without compulsion, and as compulsion will not be used, consumers will have to use impure spirits whether they like it or not, because the producer will continue to perform the intelligent operation of distilling 15 barrels of so-called "pine gum" while there are really mixed with it from 2½ to 3 barrels of dirt, rotten and decayed animal and vegetable matters, some of poisonous nature, which goes to show that they operate upon 15 barrels, while they have really but 12 or 12½ barrels of gum in the still, the balance being elements of adulteration. It is argued that with the use of Hughes' system (the cup system) there will be no more impurities, and consequently the spirits and rosin will be of superior quality. That is true, although there will be, even in that case, impurities which should not be allowed to be put into the still, but my friends, have you and idea of the number of these cups now in use or that will be for the next crop? No, you have

not; well, I will tell you. I have already stated in the "JOURNAL" that the editor of the "Industrial Record," the operator's organ, said that the cups which would be in use for the next crop should be placed at 2,000,000 at the most; he adds that there would be 200,000,000 of boxes cut which would bring the number of cups to one cup for every 99 boxes cut.

But statistics which appeared in many papers and notably in the "New York Herald" and which seem reliable, since the name of the operators, and the number of cups that each will use show that there would be only 385,000 cups in use, instead of the two million estimated by G. W. Wilson, the editor of the "Industrial Record" and consequently the proportion of the cups used will be about one cup for every 500 boxes. Does that proportion help in any way the improvement in the *purity* of the gathered gum? Not a particle. To the *uninformed* these published figures seem very important; they seem "stately", but that is because no explanation is given and the object being the booming of a name or a process or system, the object is attained in that way.

There are now four or five different appliances or processes, *more or less patented,* of gathering the gum, since the adopting of the Hughes' system by Prof. Herty. If the operators continue "boxing" it is not lack of better means, and it will appear quite natural to your readers if I recommend the use of the cup, that is, of the Hughes system, since they know that I have been the *first* to recommend it and to show and explain it by words and illustrations in your number of May 1st. 1891.

I see in our morning paper that Prof. Herty explains that the Hughes cup is much in demand and that the outlook is very encouraging: indeed, the use of the cup will be limited by the capability of potters to furnish it, but he does not say how many potters there are who can make that cup, nor how many each can make, so it is quite difficult to have a correct idea of the increase or of its importance, but it is safe to say, that if there are not enough potteries to supply the demand, it is because the potters have no confidence in the desire of the operators to use the cup, judging the future by the past. They will (the potters) know that a cup was used in France for nearly half a century, and they know also that the turpentine operators knew it as well, and yet they did not *want to use it,* and three or four states north of Florida and part of Florida herself, tell the tale, so the potters were *prudent* and the unwilling operators (and their name is legion) keep quiet and proceed with the work of "Destruction."

The people are ignorant of all or part of these details and the way to stop the consequences of the destruction of the pine forests is to make the people know of these consequences and by that means arouse them to a sense of duty to protect themselves by such an uproar of indignation that the depredations will have to stop. The climatic change will mean a great deal for Florida, indeed! it will mean everything. Florida without the perfection of her climate would be nothing, for the preservation of her climate, she needs the "pine trees"; she needs *them all.* Florida without her pine trees would be absolutely uninhabitable *in less than 20 years,* except during two or three months in the winter, and I call the attention of those who love her to that possibility.

Already more than one warning exists. The winter is longer than it used to be. The blooming of the orange trees is more than one month later than it used to be. Ten years ago the orange flowers were all gone by the 15th or 20th of March, now the blooming season begins only in April. The yellow jasmine, and, in fact, all other flowers are retarded in the same way.

Last summer the "Times Union" recorded a fact which should open the eyes of everyone. It recorded the fact that a case of heat prostration had proved fatal here in Jacksonville, and that it was the *first fatal case known in Florida.*

Let scientists look for the cause and they will find the *source of it* in the devastation of the forests north of us, and they will see what can be expected when Florida is denuded of her pine trees. Ask these scientists why Florida cannot be healthy without the pine trees; they will give you an answer which will show that that assertion is true; but in the meantime protect the pine trees and the best way to do it is the abandoning of the fatal boxing and the use of the Hughes cup or of any kind of device best adapted to that purpose.

I have been very much surprised in finding a paragraph in the "Industrial Record" which, if sincere, deserves of praise inasmuch as I remember that in a conversation I had with its author, the editor, he asked me why I was so severe against the boxing of the trees and as I replied that boxing had destroyed millions of acres of fruits and would destroy the forests of Florida, he told me: "Well, let them be destroyed; that does not affect *you personally!*" So you may judge of my surprise in reading this paragraph: "The Industrial Record strongly urges any process, whether it be the Herty cup, the Gardner tube, the Wickers cup, the Gaillard system, or any meritorious system that can be demonstrated to preserve the life of the *dear old pine,* perpetuate the industry that has been and is of such value to the South, and benefit the men who are actively engaged in it."

I am pinching myself to see if I am really awake, and as I know some lucubrations from the same pen which are to be taken (as a dream for instance) to mean the opposite of what is explained, I wonder yet at such spell

of tenderness for the "dear old pine" which, up to that time, was good only when "dead!"

On the whole, I have hardly spoken of the "revelations" of the convention of the 10th of September. I will make them the subject of my next contribution and I hope that your readers will find it interesting, as there are some strong features in them.

Yours very truly,

E. MOULIE.

Australian Tariff On Soap.

According to late customs decisions the duty on soap in the Australian Commonwealth will hereafter be:

Soap, Castile, in tablets, as perfumed soap, 3d per pound. Acid, carbolic, perfumed, 20 per cent. ad. val. As perfumery, tablets, antiseptic, as drugs (free-list), free.

Determining The Melting Points of Fats, Etc.

Kraemer and Sarthou (Nouv. Rem.) propose the following method for determining the melting point of fats, resins, etc. Twenty grams of the substance are melted in a small dish of a size and shape so chosen that the liquid will have a depth of 10 millimeters. An open glass tube 7 or 8 millimeters in diameter is then dipped into the melted liquid, the upper end closed with the finger, and the enclosed liquid withdrawn and allowed to solidify. Five grams of mercury are then poured into the open end of the tube upon the solidified cylinder of fat or wax. This is then suspended in a beaker of cold water containing a thermometer so placed that the bulb is beside the cylinder of solidified material. The beaker is placed in a larger one also containing water and serving as a water bath and the whole cautiously heated. The temperature taken at the moment when the column of mercury displaces the cylinder of wax or other material, is the melting point required.

A Cod Liver Oil Story.

A correspondent sends to the Chemist and Druggist an account of a cod liver oil transaction which he obtained first hand from one of the interested parties, the truth of which he guarantees. It appears that one of the largest refiners in Norway consigned a number of barrels of cod liver oil to a large wholesale house in London. A rival firm in the same town knowing of the transaction, and being short of oil to fill certain contracts, sent a representative to Hull, who traveled in the same steamer as the oil. This representative saw the casks loaded for London. He then followed them to their destination, bought them from the purchaser at a large profit to the seller, and consigned them back to Hull, afterwards taking train himself and traveling in the same steamer back to Norway, of course, delivering the oil to his own firm. This incident shows the extreme nature of the Norwegian cod liver oil famine, and the desperate measures adopted by some of the refiners to fulfill contracts.

Soap Blocks or Tablets.

English patent, No.23,561. Robert Brown, Donaghmore, County of Tyrone, Ireland; Soap and Candle Manufacturer.

This invention relates to the manufacture of blocks and tablets of soaps.

In carrying the invention into effect, I make my soap tablets or bars with a toy, a bottle of perfume, a coupon, a prize being given for a certain number collected, or other gift inside at or about the middle, so that when the soap is used off, the article in question will appear. This internal toy or gift may be a little china fish or duck, etc., on which advertisements may be displayed if desired, and made with a hollow air-tight chamber so as to render the soap buoyant. This will enable a heavy soap such as a milled toilet soap, to float, and the soap can have, if desired, though not necessarily, the appearance or shape outside, of the article that has been placed inside. The article that has been placed inside the tablet could, for example, be a ping-pong ball, and this could be used as an advertisement if the name of the soap or the person who sold it was displayed on the balls.

By this invention the soap can be made very attractive, and can be used largely as an advertising medium. There will be less soap in each block or tablet, without, however, reducing the external size, thus effecting economy in cost. Furthermore, the article inside the block will, I believe, prevent the remnants of the cake breaking up, thus avoiding any fragments remaining in the soap dish, which would cause an untidy appearance, and avoiding also a waste of the soap.

The Analysis of Soap.

By S. . Culbertson, Denver, Col., in National Laundry Journal.

There is no supply bought by the laundryman where adulteration can be practiced to such an extent as in his soap; and, as it is the chief item of his supply bill, it would be well for him to know just the value of his purchase. This can seldom be known by actual use in the wash-room—the so-called wash-room test is a delusion, as a rule, for the reason that conditions vary to such a great extent. There are few laundries where the amount of work is constant, week in and week out, and also where the character of the work is the same, and unless these conditions are the same and the hardness

of the water used is the same, the run for priods on different kinds of soap will be lacking in value.

What makes such a run of less value, however, is the fact that certain adulterants have in themselves great detergent properties, though they are adulterants for the reasons that they are not soap and cost less than soap. Now, such an adulterated soap would make nearly as good a run as a pure soap, yet the user of it might be paying far more than the soap was worth. Fillers of carbonate of soda, silicate of soda and rosin soap all have this detergent power.

The only true test of a soap, therefore, is an analysis; yet so little attention has been paid by laundrymen to this important subject that the writer has never seen any extended discussion of it in any of the laundry trade journals; and he has never seen any scheme of analysis in any work upon soap making, or soap analysis, that was not too technical for the comprehension of those who are not thoroughly grounded in analytical chemistry. To write upon the subject without being to some extent technical is manifestly impossible, but in the present article I will endeavor to make myself clear to the ordinary laundryman, asking only that he have at least a common school knowledge of chemistry.

FIRST—WATER.

The most common adulterant of soap is water, and the importance of a knowledge of how much water a soap contains will be seen when it is known that soap may contain as high as 50 per cent. water and yet in bar or cake form may have a fair amount of firmness. This is particularly true of soaps made in part, or in whole of cocoanut oil.

To ascertain the amount of water proceed as follows:

Take a sample of soap, if in chip form, from the center of the barrel, or sack, where it has been less exposed to atmospheric conditions, either of dryness or moisture. If the soap to be tested is in bar form take the sample from the center of the cake and cut the part selected into fine chips. The sample should be kept in a wide-mouthed corked bottle to preserve a constant percentage of moisture. Weigh out 20 grammes of the sample and place in a tared beaker and dry at a not too great heat until it is found by repeated weighings that there is no further loss of weight. The loss of weight after subtracting the weight of the beaker indicates the amount of moisture in the 20 grammes of soap. Multiplying this by 5 we find the amount in 100 grammes, which is the percentage of moisture.

The laundryman will find a convenient place for drying his sample on the floor of his hurricane dry room, placing the beaker containing it in some corner where it will be protected from the trucks and over the top of the beaker placing a piece of blotting paper, held down by a convenient weight to prevent the admission of flying lint. If he uses the old style dry room, a place on the coils may be made by putting a piece of tin thereon in such a position that the beaker will not be disturbed by the draws going in and out.

SECOND—MATTER INSOLUBLE IN WATER.

Many soaps are loaded with terra alba, clay, sand, etc. Some are made for scouring purposes with fine sand as the chief component, and several years ago there was a soap sold which contained some Fuller's earth. Laundrymen are not often caught by such soaps, however, as they soon detect them owing to the quick accumulation of insoluble matter in the bottom of their soap tanks. It is well, however, to examine the sample for insoluble matter, and to this end weigh carefully 5 grammes of the original undried soap and dissolve in distilled water. While still hot filter on a tared filter, washing the filter carefully with hot water so that none of the soap remains in it. Now weigh the dried filter with its contents and subtract the original tare. The result is the weight of insoluble matter in 5 grammes of soap: this multiplied by 20 will be the amount in 100 grammes. In other words, the percentage.

When it is desirable the insoluble residue may be further examined to determine its composition, but this is necessary only in special cases and can be of scarcely any value to the laundryman owing to the fact that his soaps rarely contain over 1 per cent. of matter insoluble in water. To know that is sufficient, and it would be a waste of time and a matter of mere curiosity to determine the composition of the substance. Therefore the writer does not take the space to consider the process involved.

THIRD—UNSAPONIFIED FATTY MATTER.

It is sometimes important to know whether or not a soap contains unsaponified fatty matter insomuch as the presence of it is a serious drawback to the proper laundering of any class of goods. It is likely to be present in considerable quantities in soaps made by the so-called cold process; also in soaps that have not been carefully made by the salting out method in general use. Tallow may be boiled for days in a solution of caustic potash of 1.25 degrees specific gravity without producing soap. Thus it is seen that unless the soap maker uses caution in the strength of his caustic solutions, whether they be of potash or soda, his product will be quite apt to contain uncombined fatty matter. The laundryman, having satisfied himself of the carefulness of his soap maker by several tests, need not have recourse to this section each time he examines his soap. By the process to be described any essential oil for scenting purposes will be removed at the same time as the unsaponified fatty matter, but since such essential oils are very small in quantity and will be again removed by the process, the accuracy of the result will not be interfered with. When, however, certain hydrocarbons exist, as petroleum, vaseline or other coal tar oils, also when car-

bolic or kindred acids are present in excess of the caustic alkali of the soap, these substances will dissolve out at the same time as the unsaponified fatty matter, and will interfere with the result unless their quantity be determined previously by another process. However, this other process is not considered here insomuch as the substances mentioned exist for the most part in medicated soaps only. I know of but one laundry soap containing hydro-carbon, and it is a bar soap and not a chip soap. It is safe to say that the process recommended here is accurate for any soap used by laundrymen.

Some chemists recommend the use of a Soxhlett extraction apparatus, but I have found the process slow. It is sufficient to weigh carefully 5 grammes of the original soap; rub it in a mortar with rigolene, petroleic ether or a high test gasoline or with ethyl ether. Filter the solution; wash the mass in the mortar with more of the solvent, passing it also through the filter. In filtering pass the liquid into a beaker that has been weighed; evaporate the filtrate, when the solvent and any essential oil used for scenting will be evaporated; weigh the beaker and contents and subtract its tare. The result, multiplied by 20, will be the percentage of uncombined fatty matter.

Great caution must be exercised in evaporating this solution, as the solvents employed are highly inflammable. If rigolene is used, or ether, it will be sufficient to place the beaker in hot water. The writer finds it very convenient to place the beaker on the top of a steam trap.

I have detailed the above method as the one most used. The method I follow in this process is, on the whole, I believe, less cumbersome and gives results which check accurately with theoretical results. The 5 grammes of soap are dissolved in distilled water by the aid of heat and are then poured into a separatory funnel (the globe-shaped with glass stopper and ground glass stopcock). Then into the beaker that has contained the soap solution pour several ounces of ethyl ether; shake it around and then pour into the funnel. Repeat with another ounce or two. Now cork the funnel and, while tightly holding down the cork agitate the whole. Next allow the ethereal or hydrocarbon layer to rise to the top, and, after a few minutes, remove the cork to allow the pressure of evaporated ether, or hydrocarbon to escape. Then with the cork still out, turn the stop cock at the bottom and allow all of the aqueous solution to escape. Then add water, agitate and allow it to escape through the stop-cock as before. Repeat. Now pour the remaining solution into a weighed beaker and rinse the funnel with more of the solvent, pouring the rinsings into the beaker. Evaporate and weigh as in the former process. The solvent will have contained the unsaponified fatty matter in solution. Be careful that neither of these processes is performed in a room where a light or a fire is burning.

FOURTH—GLYCEROL.

Having touched upon the subject of cold process soap in the last process it is in order to consider the subject of glycerol now. For those who are unfamiliar with the chemistry of soap making, it may be well to state that tallow consists of three acids, known as stearic, oleic and palmitic, in combination with a base, glycerol. Upon the addition of an alkali base to the tallow, these acids combine with the alkali to form soap, while the glycerol is set free. By the usual method of soap making advantage is taken of the fact that soap is insoluble in brine, to purify it. Upon the addition of sufficient common salt to a kettle of soap, the soap separates from the water and floats on top. The water containing impurities, excess alkali, and glycerol is drawn off from below and thus the glycerol is removed and does not appear in the analysis of such soap. Certain toilet soaps are called glycerinesoaps, and many of them contain glycerol to greater or less extent, but the consideration of them does not come within the scope of this article.

The cold process, however, does not provide for the removal of glycerol or impurities; they are not "salted out," and in soaps made by this process it may be well to consider a method of determining the amount of this base. If the soap has been thoroughly kiln-dried before marketing a large proportion of glycerol will have been evaporated and the result will not show the amount originally in the soap. It will show, though, the amount sold to the laundryman in lieu of soap. In cold process soaps when no attempt has been made to remove the water introduced in the process of soap making the result will show the full amount resulting from the decomposition of the tallow by alkali.

The following test is useless in the presence of sugar for it will appear as glycerol, but the test is recommended inasmuch as sugar takes no part in laundry soap, though it does in some toilet soaps. The method is that of Lewkowitsch. To a hot aqueous solution of 5 grammes of the original, undried soap add dilute sulphuric acid in sufficient quantity to cause the fatty acids to separate as described in a subsequent process. While still warm filter to separate the fatty acids and insoluble matter. Next make the filtrate neutral by the addition of barium carbonate and boil down over a water bath to the consistency of syrup. Extract this syrup with a mixture of 3 parts 95 per cent. alcohol and 1 part ether. Filter and evaporate on a water bath at as low a temperature as possible to prevent evaporation of the glycerol. When the resultant fluid has lost the odor of alcohol and ether proceed by Hehner's method of determine the amount of glycerol.

Prepare the reagents in the following way:

Potassium dichromate solution: To 200 cubic centimetres of distilled water add 37.43 gms. of chemically pure potassium dichromate and 75 c.c. of strong sulphuric acid; then sufficient water to bring the amount when cool to 500 c.c.

Ferrous ammonium sulphate solution: Dissolve 120 gms. c. p. in 500 c.c. of distilled water, and standardize upon the potassium dichromate solution so that 1 c.c. of the one exactly neutralizes 1 c.c. of the other. 1 c.c. of potassium solution now represents 0.01 gm. of glycerol.

The glycerol having been diluted to 100 c.c. with distilled water, use one-quarter of it, or 25 c.c., placing it in a clean beaker with 40 c.c. of the standard dichromate solution and 15 c.c. of strong sulphuric acid. Heat the beaker for two hours in a water bath. Then titrate back with the ferrous ammonium sulphate. The difference between the 40 c.c. of dichromate used originally and the number of c.c. of ferrous solution used to neutralize, represents the number of c.c. of dichromate used in oxidizing the glycerol. As 1 c.c. of the dichromate represents 0.01 gm. of glycerol, multiply the number by 4 because one-quarter of the sample was taken and then by 20, because 5 gm. were operated on instead of 100, and then by 0.01 or more, shortly multiply the number of c.c. of dichromate used by glycerol by 0.80 to obtain the percentage of glycerol in 100 parts of the original soap. I give this subject more attention, perhaps, than it deserves, but insomuch as a number of soap makers are using the cold process, and as the presence of glycerol in laundry soap is a pretty conclusive proof of the process by which it has been made, I have thought it well to go into the subject at some length.

FIFTH—FATTY MATTER.

Weigh out 5 gms. of the original undried soap, dissolve by boiling in about 100 gms. of distilled water, using a tared beaker of about 500 gms. capacity, and rather broad, to prevent boiling over. While still gently boiling add 30 c.c. of a normal solution of sulphuric acid. Boil until the white emulsion-looking resultant fluid has been reduced to clear melted fat, floating upon the top of the clear, or almost clear, liquid. Set aside and allow to cool. When the fat is formed into a cake on top pour off liquid into another beaker and save for a future process. If the fat is of some oil and does not solidify, add a known weight of white wax which will melt and join with the oily layer, afterwards cooling into solid form. Into the original beaker containing the fatty matter pour hot water and bring to a boil; afterward allowing the cake to cool and removing water as before, adding it to the original water. Repeat the operation. Now dry the cake of fatty matter slowly. Its weight, with the beaker containing it, when the beaker's weight is subtracted and that of any wax that may have been added, will represent the amount of fatty matter, and when multiplied by 20 will give the percentage of fatty matter.

The method of manipulation given here is the one usually adopted; but the writer has devised a means of separation that is much more convenient and accurate, and at the same time much quicker. He has had made a beaker of about 800 gms. capacity, blown with a glass tube and stop-cock on the side just above the bottom. The fats are separated by acid as above in this (its weight being known) and after a few minutes for all matter to arise to the top, the stop-cock is opened and the aqueous layer drawn off, allowing it to run a drop at a time near the end so that the shutting off of the stop-cock at the proper time may be easily accomplished. The beaker is tilted that the tube may be the lowest point of it.

Hot water being now added to the beaker and agitated the operation is repeated and again repeated. Now the beaker and its fatty contents are ready for weighing without waiting for the fat to cool. The operator must be sure that no drop of water remains in the outer tube of the stop cock by capillary attraction. These would be weighed as fat. The operator will observe that if there has been found any free fat by process No. 3, the percentage must be deducted from the weight found here. Also if there be found any resin present by process No. 7 the weight of that must also be deducted; because it and also the free fat will have been separated by the said operation as though it were combined fat. This gives us then the net percentage, inclusive of water of hydrolysis that has been taken up by the fatty matter in the chemical process of separation by the acid, and to obtain the true amount of combined fatty matter multiply the net result by .97 (Allen) otherwise the total addition of the analysis would run above 100 per cent.

In handling cocoanut oil soaps it is to be observed that the fatty acids of this oil are slightly soluble in water. Therefore use as little water as can be operated with, and to it before treating with acid, add some c. p. salt—use hydrochloric acid instead of sulphuric if convenient. Thereby the error will be so slight as to be unappreciable. It may be necessary to add that in washing the fatty matters from such soap, brine should be employed instead of pure water.

(To be continued.)

Attempts to Appropriate Common Words as Trade-Marks.

In Cooke & Cobb Co. vs. Miller, decided by the New York Court of Appeals in January, 1902, it was held that the word "favorite in the label of a letter file was not subject to exclusive appropriation as a trade-mark. The general policy of this decision, that adjectives denoting abstract qualities may not be pre-empted as

private property, is in line with the current of authority outside of this State. An example may be found in the decision of the New Jersey Court of Chancery in Levi vs. Shoenthall, in which it was held that the word "incomparable" was not susceptible of individual monopolization.

The latest utterance of the New York Court of Appeals on the subject, in Barrett Chemical Co. vs. Stern (October 1903), has taken even more decided ground in favor of the right of all persons to the use of ordinary words. It appears that the plaintiff's assignor had adopted and used the term "Roachsault" as descriptive of a preparation for destroying roaches and other insects. The defendant manufactures and sells an article to be used for the same purpose, with a label which describes his article as "Roach Salt." In holding that the plaintiff is not entitled to injunctive relief, the Court of Apeals uses the following language:

"The sole question in the case is whether the plaintiff has a technical trade-mark that has been invaded by the act of the defendant. Both parties are engaged in the same business, and both have made use of a common word to describe the character, quality and use of an article for destroying insect life. The fact that the plaintiff made use of the word before the defendant did not give him the exclusive right to it, since it was merely descriptive of the article. There is no allegation or finding that any fraud was intended or committed, or that the defendant, by the use of the word, palmed off his goods to the public as the goods of the plaintiff. The case in its legal aspect, is practically the same as if each party had labeled his goods 'Roach Poison' instead of 'Roach Salt.' They are all common descriptive words, indicating to the purchaser of the article that it was a powder or preparation for destroying roaches or other insects; and when the two labels are compared with respect to size, color, character and advertising caption, descriptive of the thing to which it is attached, they are so dissimilar that it is scarcely possible that any observer possessing reasonable intelligence who wanted to procure the plaintiff' goods would be likely to be deceived, or mistake the defendant's article for that of the plaintiff."

It will be noticed that the element of deception of the public, through similarity of packages or other means calculated to mislead, is expressly eliminated. The case, in our judgment, goes further than Cooke & Cobb Co. vs. Miller, because the plaintiff had combined the words "roach" and "salt" in a single term with a peculiar orthography, and there is much to be said in favor of the position taken by the appellate division in the same case, that "Roachsault" "is in no sense descriptive of the article sold, but is an arbitrary or fanciful designation of the compound. This brings it within that class of terms or words which may be adopted as a trade-mark or word, and in which the user or inventor acquires a property right which the law protects."—N. Y. Law Journal.

Tariffs and Soap.

London, Liverpool, Warrington, and Leeds are the principal centers of the British soap-making industry. Probably the metropolis enjoys as much of the home trade as all the other places combined, but the city of the Mersey appropriates a large slice of the export trade. London soap-makers are somewhat divided upon Mr. Chamberlain's proposition for the imposition of a 10 per cent. duty on manufactured articles imported into England. Soap of the value of £428,853 reached these shores from abroad last year, and there is every prospect of the quantity being even greater this year. The imports for the nine months ending September amounted to £382,962, while the figures for the corresponding period of 1901 and 1902 were £237,633 and £290,716. Nearly three-fourths come from the United States, and the fear of certain employers is lest anything should be done which would tempt Brother Jonathan to dump himself, instead of his soap, in England and thus provoke an attack from within, not upon our home industry alone, but upon our export trade as well. What Great Britain's home trade was last year it is difficult to ascertain, but her exports were officially returned as follows:

	Tons.	Av. price per ton. £ s. d.	Value. £ s. d.
Cape	9,994	22 0 0	219,868 0 0
China	5,700	17 15 0	101,175 0 0
West Indies	4,300	18 6 8	78,833 6 8
Bombay	3,904	19 0 0	74,176 0 0
Belgium	2,500	23 10 0	58,750 0 0
Brazil	1,400	17 0 0	23,800 0 0
Straits Settlements	1,574	18 0 0	28,332 0 0
Canada	145	45 5 0	6,561 5 0
Canary Islands	1,400	16 0 0	22,400 0 0
Bengal	1,329	27 15 0	36,879 15 0
Burmah	1,300	18 0 0	23,400 0 0
Total	33,546		674,175 6 8

Since 1898 our total exports have gone up more than 30 per cent. all round—37½ to foreign countries, and 26½ to British possessions. But our exports to Australia, Canada, and Newfoundland have fallen 7½ per cent. It is remarkable that these colonies take the mother country's high-priced soaps, thus looking to her for their luxuries, but depending upon themselves for their necessities. An important London soap manufacturer assured a representative of the Daily Telegraph, recently,

that the prohibitive tariff had done Germany very little good. There was not, he declared, a single big soap manufacturer in the whole of the Kaiser's empire, but a number of little men have combined together and produced a very bad soap. "I am not given to selfishness," added this expert, "but I do not yet see what benefit Mr. Chamberlain's scheme can confer upon the English soap trade, though I am, of course, open to conviction. Competition has been intensely severe of late. By adopting modern methods and keeping our plant up to date we may hold our own; but if we provoke an American invasion we do not know where we shall be landed."

These, however, were certainly not the views entertained by Mr. Frederick Cleaver, head of the firm of F. S. Cleaver & Sons. With unmistakable emphasis this gentleman proclaimed himself an enthusiastic admirer of the late Colonial Secretary's fiscal policy. "Why," he exclaimed, in tones of indignant remonstrance, "if we export soap to the United States we have got to pay a duty of something like 80 per cent. And yet the Americans are allowed to dump down their stuff in England without paying a brass farthing. It is monstrously unfair. While our foreign competitors are amassing huge fortunes we are quietly looking on under the delusion that we are teaching the world a grand lesson in commercial morality. Commercial fiddlesticks! Commercial stupidity rather! This sort of thing—this one-side free trade—ought to have stopped twenty years ago, and I glory in Chamberlain for leaving office and putting his hands to the plough. That's patriotism if you like. No wonder the foreigners are squirming now that they see their little game is up."—London Daily Telegraph.

The Soap Industry In Marseilles.

(Reported by the British Consul.)

Marseilles soap manufacturers have established their reputation by the superior quality of their soap and it is essential that the ingredients employed should be of the very finest quality. There is not likely to be any demand for Indian cotton-seed here, and the production of Linter cotton and its use in the making of wicks and paper will, consequently, not become a Marseilles industry.

A common brown soap is made at Marseilles from the residue of cotton-seed oil after refining, the process adopted in refining the oil making the residue suitable to the purpose. After crushing the hulls are pressed into cake, the oil extracted is refined by caustic alkalis (soda), and the residue, after refining, is thus in itself an imperfect soap. It is valued at date of writing at 9s. per cwt. in barrel. This residue contains about 60 per cent. of fatty oil, and is transformed by addition of about 12 per cent. more fatty matter, of greater body, into a common brown soap containing 72 per cent. of fatty matter. It is thus a very oily soap, and has a ready sale. It fetches about 16s. 9d. per cwt. As the residue itself is of insufficent consistency to make hard soap, the additional 12 per cent. of fatty matter is probably copra or tallow.

The ordinary Marseilles soap is mostly made with 20 to 25 per cent. of copra oil and 35 to 40 per cent. of either ground nut oil and (or) sesame oil and (or) cotton oil as the prices of the latter three vary.

The price of oil having kept constantly high during 1902, the soap makers' profits did not compensate for the losses of 1901. But the average of sales having been considerably higher than that of the preceding year, the final result has been a fair profit; and the large firms, especially those whose working expenses are minimized by their large output, have had a fairly normal year.

The present outlook is, however, most satisfactory for the Marseilles soap makers. The constantly low prices oils during the first five months of 1903, and the small stock in the hands of the manufacturers, have enabled the latter to buy sufficient for their present requirements with a good margin of profit.

The orders from abroad have been normal, except from the Far East, where British qualities hold the field, owing to their ancient reputation, and to the greater knowledge British soap makers have of the requirements of the markets there. Marseilles is bent on increasing her trade in soap with the Far East, but the competition will not be very dangerous to us, as the qualities produced by Marseilles differ so greatly from soaps of British make that consumers accustomed to British qualities will not think of buying French soaps. On the other hand, of course, countries in the Far East accustomed to the French brands will have no other.

The Manufacture of Tallow.

In the rendering plant studied in connection with the investigations which form the material of this article, manufacturing operations were on a small scale and the conditions related are typical of small scale production, which is, as a rule, synonymous with low efficiency, but where tallow rendering is carried out on a large scale, as in the packing industry, the conditions related, as known from actual observation and experience, do not prevail.

Tallow and grease rendered in the manner herewith described and under the conditions stated, form a very large volume of the supply offered for consumption to the soap trade, which absorbs practically all of it.

The term "tallow" is principally applied to the mixture of olein and stearine obtained by rendering beef or

mutton fat. Various vegetable fats, the grease obtained by boiling or steaming bones, the solids obtained by the expressing of whale and fish oil, and certain other solid fats, however are also known as varieties of tallow. Inferior kinds of animal tallow used for soap making are known as melted stuff, rough stuff and town tallow, the latter also being known as kitchen stuff or pot grease, and consisting of the waste obtained in cooking operations. Varieties whose names depend on the places of export are known as River Plata, North American, and Western tallow. So important is the tallow industry in South America and Australia that immense numbers of cattle were formerly slaughtered and boiled down for their tallow alone.

The arrangement employed for rendering fat consists of a strong iron cylinder, having a charging hole, a manhole near the bottom for discharging the refuse, taps for drawing off the fats, water-supply valves, steam-supply valves, and a waste valve. The charge is heated by steam supplied at 60 to 80 pounds pressure, which circulates through the coil beneath a perforated false bottom supporting the fat, and water is supplied when necessary. After six to eight hours the tallow is drawn off, alone or with water, by opening the upper or lower tap.

There are a series of cylinders of 1,200 to 1,500 gallons capacity employed in rendering the fats when the tissues are not required in a condition otherwise than is suitable for manure. The cylinders are filled above a false bottom with the crude fat, and steam is admitted by a foot valve and perforated pipe at 50 pounds or even as high as 100 pounds pressure. A cock is opened to allow escape of condensed water when spurting occurs on opening a try cock. After ten to fifteen hours the steam is cut off and the cock and safety valves are opened, and, after settling, the layer of tallow is drawn off through a series of cocks. The cover of a discharge hole in the bottom of the cylinder is then raised by a rod, and the residue falls into the tub beneath.

To remove the last traces of tissue it is necessary for the tallow to be washed, melted and strained. This process extracts more tallow from the fat than any other. Sometimes the fat is rendered at the atmospheric pressure by boiling a mixture of the fat with one-fourth its bulk of water containing 2 to 3 per cent. of sulphuric acid.

The quality of tallow varies with the species, age, and sex of the animal, and with the part of the body from which it is obtained. Animals fed on brewery refuse usually yield a tallow containing a lower proportion of stearine. Mutton tallow contains the largest proportion of stearine, and is whiter than beef tallow.

Tallow consists principally of stearine, olein and palmitin, the two former largely predominating. Pure tallow is white and almost tasteless, but the commercial product is usually yellowish. When saponified it yields about 94 to 95 per cent. of fatty acids. Tallow melts between 100° to 120° F., the best varieties melting at about 100°. It may be distilled in vacuo, but is decomposed when distilled with superheated steam into oleic, stearic and palmitic acids, with separation of glycerine.

Commercial tallow frequently contains a considerable quantity of free fatty acid, and is often adulterated with cotton-seed stearine, bone fat, the distilled fatty acids from wool grease, and other fats more easily melted than stearine. Starch, china clay, and whiting are also used as adulterants.

Several processes are in use for bleaching and purifying tallow and stearine in addition to the mechanical methods of subsidence and filtration under pressure from a head of the liquefied tallow. By one process tallow for soap making is bleached by driving air through it in finely-divided streams, while heated to from 180° to 200° F. With ordinary tallow this process requires from ten to fifteen hours.

The tallow is sometimes agitated with potassium carbonate and allowed to settle before treatment. It may also be bleached by boiling with a solution of bleaching powder in the proportion of 1 per cent., or of potassium chlorate in the proportion of less than 0.3 per cent. of the tallow, with addition of hydrochloric or sulphuric acid. A mixture of manganese dioxide and hydrochloric or sulphuric acid may also be used.

Tallow is said to be largely bleached by the following process: It is partly saponified by heating with soda and salt solution, and the upper and lower saponified layers are drawn off for making curd soap; the middle, unsaponified portion being filtered through linen, heated to boiling with a 2½ to 3 per cent. solution of alum for fifteen minutes, and left from three to five hours. It is then again heated to from 338° to 392° F. to complete the bleaching, care being taken to arrest the heat if any unpleasant smell is observed. The fat treated by this process should not be rancid neither should it be too fresh.

There is also a method of purifying in which the melted fat is agitated at 150° to 212° with a solution of potassium permanganate and sufficient dilute sulphuric acid to render the whole distinctly acid. After an hour the liquid is settled and the fat is drawn off and remelted in water.

Stearic acid may be bleached by agitation with 5 per cent. of sulphuric acid diluted with 10 per cent. of water. After settling and removal of the acid water with the aid of washing, purification may be completed by stirring in water containing the whites of 25 eggs to each 100 pounds of stearine and heating by steam. The albumen rises as a scum, containing most of the chemical impurities.—Bulletin of Dept. of Labor.

Opening For Soaps In China.

The British Consul at Wuchow says: "The Chinese are beginning to use soap for shaving, and I would suggest that there might be a sale for a cheap scented soap, preferably colored and packed in tins. British soap of a well-known brand sells at1 s. per box of three cakes, but, being packed in plain cardboard boxes and but slightly perfumed, it is not so much in demand as the cheaper and highly scented French and German varieties, which come out in ornamental covers and sell well at from 6d. to 1s. per box. A Chinaman always looks to the box, case, tin, or bottle when purchasing foreign goods. The covering, if it may be useful in the household, will always recommend an article to a bargain-loving Chinese." The Consul at Nanking also mentions soap: "The demand for foreign soap has been growing so rapidly amongst the Chinese that no less than three native companies have been formed within the last year or so to import the necessary machinery and manufacture the article locally. Only one of the companies seems to have come to anything, but the soap it manufactures has already a large and increasing sale in the city, and, as the returns show, a small quantity has even been exported. Both washing and toilet soap are turned out, and the intention evidently is to let purchasers imagine that they are getting the foreign article, for some of the best-known British brands are faithfully imitated."

Nitric Acid Test For Cottonseed Oil.

Messrs. J. H. Coste and E. T. Shelbourn read a paper recently, before the Society of Chemical Industry, on the nitric acid test for cottonseed oil, pointing out that on testing a sample of neatsfoot oil indications were given, by this test, of the presence of cottonseed oil. They considered that the sample which was the occasion of these experiments was genuine neatsfoot oil, as the character of the unsaponified matter did not indicate the presence of vegetable oil and the solidifying point of the fatty acids was not high enough to suggest the presence of cottonseed oil. * * * In the discussion Dr. Lewkowitsch said, with regard to the nitric acid test, that he must disclaim any particular affection for it, as he had stated elsewhere (Chemical Analyses of Fats, etc., 11 Edit., p. 381). He looked upon most color tests as unreliable. To judge from the melting point of a mixture as to a few per cents. of cottonseed oil, was altogether unsafe. The iodine absorption of the liquid fatty acids, and the examination of the unsaponifiable matter would give a definite answer as to the question of adulteration. Most color tests should only be regarded, in cases of doubt, as preliminary tests. Halphen's test was much more reliable in indicating the presence of cottonseed oil in mixtures, and should be used for that purpose merely as a preliminary test, and with such limitations as the author indicated. A negative Halphen test did not prove the absence of cottonseed oil, because the coloring matter giving this test was destroyed at temperatures above 200° C. The nitric acid test would frequently give indications of cottonseed oil with samples which had been heated and no longer gave the Halphen test. But even a positive Halphen test was not always reliable, as Mr. Coste had mentioned, since cattle and pigs fed on cotton cake, showed in their milk, fat or lard, the coloring matter originally contained in cottonseed oil. Pigs fed experimentally in the United States with cotton cake yielded lard showing this reaction as strong as would be given by lard containing 25 per cent. of cottonseed oil. If it was necessary to prove the presence or absence of cottonseed oil in animal oils or fats the unsaponified matter should be examined.

Soap Trade of Zanzibar.

There is a good demand at Zanzibar for brown household soap from the United Kingdom and America, and for blue and red mottled from the Continent. The British import has considerable increased during the last three years. A brisk trade has opened up with the Seychelles Islands. The respective values of the imports in 1902 were: Germany, £4,965; United Kingdom, £4,172; Seychelles, £3,099; United States, £1.035; other countries, £893; total value of import, £14,704.

Copra and Copra Oil in the Philippines.

The Bureau of Insular Affairs of the War Department has received from the Bureau of Agriculture of the Philippine Islands an interesting monograph upon the production of the cocoanut in the islands, with special reference to the important commercial products, copra and cocoanut oil. Much information is presented concerning this industry from a purely commercial standpoint both with reference to the production of cocoanuts in the islands and the exportation and utilization of the copra. The industrial possibilities of the manufacture of cocoanut oil in the islands are also discussed, and the reasons why it has hitherto been found more profitable to ship the copra than to press it are fully described. In view of the importance attained by these products in recent years capitalists are urged to undertake the construction of a large, up-to-date plant for the manufacture of the so-called butter products of the nut, a large part of which it is said could be marketed in the Philippines, while the remainder could be exported to better advantage than

the bulky copra. Following is an abstract of this interesting report:

Until very recent years the demand for the "meat" of the cocoanut or its products was limited to the uses of soap boilers and confectioners. Probably there is no other plant in the vegetable kingdom which serves so many and so varied purposes in the domestic economy of the peoples in whose countries it grows. Within the past decade chemical science has produced from the cocoanut a series of food products whose manufacture has revolutionized industry and placed the business of the manufacturer and of the producer upon a plane of prosperity never before enjoyed.

There has also been a great advance in the processes by which the new oil derivatives are manufactured. The United States took the initiative with the first recorded commercial factories in 1895. In 1897 the Germans established factories in Mannheim, but it remained for the French people to bring the industry to its present perfection.

The conversion of cocoanut oil into dietic compounds was undertaken at Marseilles, in 1900, by Messrs. Rocca, Tassy and De Roux, who in that year turned out an average of 25 tons per month. During the year just closed (1902) their average monthly output exceeded 6,000 tons, and, in addition to this, four or five other large factories were all working together to meet the world's demand for "vegetaline," "cocoaline," or other products with suggestive names, belonging to this infant industry. These articles are sold at gross price of 18 to 20 cents per kilo to thrifty Hollandish and Danish merchants, who, at the added cost of a cent or two, repack them in tins branded "Dairy Butter," and as such, ship them to all parts of the civilized world. It was necessary to disguise the earlier products by subjecting them to trituration with milk or cream but so perfect is the present emulsion that the plain and unadulterated fats now find as ready a market as butter. These "butters" have so far found their readiest sale in the tropics.

The significance of these great discoveries to the cocoanut planter cannot be overestimated, for to none of these purely vegetable fats do the prejudices attach that so long and seriously have handicapped those derived from animal margarin in combination with stearic acid, while the low fusion point of pure dairy butters necessarily prohibits their use in the tropics, outside of points equipped with refrigerating plants. The field, therefore, is practically without competition, and the question will no longer be that of finding a market, but of procuring the millions of tons of copra or oil that this one industry will annually absorb in the immediate future.

Cocoanut oil was once used extensively in the manufacture of fine candles, and is still occasionally in demand for this purpose in the Philippines in combination with the vegetable tallow of a species of stillingia. It is largely consumed in lamps, made of a tumbler or drinking glass half filled with water, on top of which float a few spoonfuls of oil, into which the wick is plunged. In remote barrios it is still in general use as a street illuminant, and so perfect is its combustion that under a constant flicker it emits little or no smoke.

When freshly expressed, the oil is an exceptionally good cooking fat, and enters largely into the dietary of our own people. The medicinal uses of the oil are various, and in the past it has been strongly advocated for the cure of eczema, burns, as a vermifuge, and even as a substitute for cod liver oil in phthisis. Its medicinal virtues are now generally discredited, except as a restorative agent in the loss of hair resulting from debilitating fevers. Its value in this direction may be surmised from the splendid heads of hair possessed by the Filipino women, who generally use the oil as a hair dressing.

Cocoanut oil is derived from the fleshy albumen or meat of the ripe fruit, either fresh or dried. The thoroughly dried meat is variously known as copra, coprax and copraz. The exportation of copra is detrimental to the best interests of the planter, tending to enrich the manufacturer and impoverish the grower. The practice, however, is so firmly established that the writer can only record a probably futile protest against its continuance.

The causes which for a long time will favor the exportation of copra instead of oil in this archipelago may be briefly stated as follows:

(1) An oil-milling plant, constructed with due regard to economy of labor and the production of the best quality of oil, would involve an outlay of $2,500 gold and upward, according to capacity. The production of copra requires the labor of the planter's hands only.

(2) The oil packages must be well-made barrels, casks, or metallic receptacles. The initial cost of the packages is consequently great, their return from distant ports impracticable, and their sale value in the market of delivery is not sufficient to offset the capital locked up in an unproductive form. On the other hand, copra may be sold or shipped in boxes, bags, sacks and bales, or it may even be stored in bulk in the ship's hold.

(3) When land transportation has to be considered, the lack of good roads still further impedes the oil maker. He cannot change the size and weight of his packages from day to day to meet the varying passability of the trail. On the other hand, packages of copra may be adjusted to meet all emergencies and the planter can thus take advantage of the market conditions which may be denied to the oil maker.

(4) Perhaps the most serious difficulty the oil maker has to contend with is the continuous discouragement he encounters from the agent of foreign factories, who buys

in the open market, and, bidding up to nearly the full oil value of the copra, finds an ample manufacturer's profit paid by the press cake, so valuable abroad, but, unfortunately, practically without sale or value here. The residue from the mill may be utilized both for food and for manure by the oil maker who is a tree owner and who maintains cattle. For either of these purposes its value rates closely up to cottonseed cake, and the time is not remote when it will be recognized in the Philippines as far too valuable a product to be permitted to be removed from the farm excepting at a price which will permit of the purchase at a less figure of an equivalent in manure. So active are the copra-buying agents in controlling this important branch of the industry that they refuse to buy the press cake at any price, with the result that in two instances known to the writer, they have forced the closure of oil milling plants and driven the oil maker back to his copra.

Many copra-making plants in India and Ceylon are now supplied with decorticating, breaking and evaporating machinery. The process employed in this archipelago consists in first stripping the ripe fruit of the outer fibrous husk. This is effected by means of a stout, steel spear-head, whose shaft or shank is embedded firmly in the soil to such a depth that the spear point projects above the ground rather less than waist high. The operator then holds the nut in his hands and strikes it upon the spear point, gives it a downward, rotary twist, and thus, with apparent ease, quickly removes the husk. An average operator will husk 1,000 nuts per day, and records have been made of a clean up of as many as 3,000 per day. The work, however, is exceedingly hard, and involves great dexterity and wrist strength.

Another man now takes up the nut and with a bolo strikes it a smart blow in the middle, dividing it into two almost equal parts. These parts are spread out and exposed to the sun for a few hours, or such time as may be necessary to cause the fleshy albumen to contract and shrink away from the hard outer shell, so that the meat may be easily detached with the fingers.

Weather permitting, the meat thus secured is sun dried for a day, and then subjected to the heat of a slow fire for several hours. In some countries this drying is now effected by hot-air driers, and a very white and valuable product secured; but in the Philippines the universal practice is to spread out the copra upon what may be called a bamboo grill, over a smoky fire made of the shells and husks, just sufficient heat being maintained not to set fire to the bamboo. The halves, when dried, are broken by hand into still smaller irregular fragments, and subjected to one or two days of sun bath. By this time the moisture has been so thoroughly expelled that the copra is now ready to be sacked or baled and stored away for shipment or use.

All modern cocoanut oil mills are supplied with a decorticator armed with revolving discs that tear or cut through the husk longitudinally, freeing the nut from its outer covering and leaving the latter in the best possible condition for the subsequent extraction of its fiber. This decorticator is fed from a hopper and is made of a size and capacity to husk from 500 to 1,000 nuts per hour.

Rasping and grinding machinery of many patterns and makes, for reducing the meat to a pulp, is used in India, Ceylon and China; and, although far more expeditious, offers no improvements, so far as concerns the condition to which the meats are reduced, over the methods followed in the Philippines. Here the fleshy halves of the meat are held by hand against a rapidly revolving, half-spherical knife blade which scrapes and shaves the flesh down to a fine degree of comminution. The resulting mass is then macerated in a little water and placed in bags and subjected to pressure, and the milky juice which flows therefrom is collected in receivers placed below. This is now drawn off into boilers and cooked until the clear oil is concentrated upon the surface. The oil is then skimmed off and is ready for market.

The process outlined above is very wasteful. The processes I have seen in operation are very inadequate, and I estimate that not less than 10 per cent. of the oil goes to loss in the press cake. This is a loss that does not occur in establishments with the best presses. It is true that very heavy pressure carries through much coloring matter not withdrawn by the primitive native mill, and that the oil is consequently darker and sooner undergoes decomposition; but modern mills are now supplied with filtration plants through which this objection is practically overcome.

The method of growing the crop is described at length in the monograph and considerable space is devoted to the various by-products of the industry, including the fiber derived from the cocoanut husk, the tuba, or fermented sap drawn from the cocoa tree, etc. In conclusion, the author points out the desirability of establishing a high-class modern plant for manufacturing cocoanut oil and other products of the nut, as follows:

1. There are large areas throughout the littoral valleys of the archipelago, as yet unexploited, which, in the essentials of soil, climate, irrigation facilities, and general environment, are suitable for cocoanut growing.

2. The present conditions present especially flattering attractions to cocoanut growers capable of undertaking the cultivation upon a scale of some magnitude. By co-operation, small estates could combine in the common ownership of machinery, whereby the products of the grove could be converted into more profitable substances than copra.

3. The present production of copra (estimated at 278,000 piculs in 1902) is an assurance of a sufficient supply to warrant the erection of a high-class modern

plant for the manufacture of the ultimate (the "butter") products of the nut. The products of such an enterprise would be increased by the certainty of a local market in the Philippines for some part of the output. The average market value of the best grades of copra in the Marseilles market is $54.40 gold, per English ton. The jobbing value on Jan. 1 of this year, of the refined products, were, for each ton of copra:

Butter fats	$90 00
Residual soap oils	21 00
Press cake	5 20
Total	$116 20

the difference representing the profit per ton, less the cost of manufacture.

4. The minimum size of a plantation, on which economical application of oil and fiber preparing machinery could be made, is 60 hectares.

5. There is no other horticultural product which may be grown in these islands where crop assurance may be so nearly guaranteed, or natural conditions so nearly controlled by the planter who, knowing correct principles, has the facilities for applying them.

6. The natural enemies and diseases of the plant are relatively few, easily held in check by vigilance and the exercise of competent business management.

7. The labor situation is bound more seriously to affect the small planter, wholly dependent upon hand labor, than the estate conducted on a large enough scale to justify the employment of modern machinery.

8. In view of an ever-expanding demand for cocoanut products, and in the light of the foregoing conclusions, the industry, when prosecuted upon a considerable scale and subject to the requirements previously set forth, promises for many years to be one of the most profitable and desirable enterprises which command the attention of the Filipino planter.—Oil, Paint and Drug Reporter.

The druggist smiles at the chauffeur who enters. Without a word he goes to his perfume case, takes from it a small vial of extract, receives a dollar from the automobilist and bows him politely out.

"I'm selling lots of that odor," he says.

"What is it?" asks the man leaning against the cigar case.

"Auto of roses."

"Auto? You mean attar."

"No; I mean auto. It is essence of roses, with a dash of gasoline. It is manufactured especially for motorists."—Judge.

Tommy—Say, pop, what is a wash drawing?

His Pop—A picture to be used as an advertisement for a new brand of soap.

Colophony and The Resinates.

Although everyone has seen or heard of rosin, few know its real industrial importance. The writer recently met a distinguished university student who knew the chemical composition of colophony, but not how it was obtained, and he knew of no uses for it except for violin bows and the soles of acrobats' shoes.

Colophony is prepared by distilling crude turpentine at a low temperature. The yield is 12 to 13 pounds of oil of turpentine and about 85 pounds of colophony per 100 pounds of crude pine turpentine. In its native state the resin contains about 1 per cent. of bituminous matters, which give it a red color. It is then called arcanson. When it is purified by redistillation at a somewhat higher temperature than the first, it becomes transparent, and is called colophony, which fetches a much higher price than arcanson.

Chemists are not agreed as to exact composition of colophony. They agree as to the empirical formula but no further. The difficulties of getting at the constitution of organic bodies of complicated constitution is well known, and in this case we do not know quite what is pure colophony and what is not. The Vosges colophony, the Bordeaux colophony, and the Alsace colophony are all different. Twenty years ago it was admitted that the Vosges colophony was a mixture of two isomers, sylvic acid and pinic acid, that the Bordeaux rosin contained pimaric acid, and that the Alsace colophony was a compound of abietine and abietic acid.

It appears evident that this apparent diversity of composition points to errors of definition or of analysis, for colophony does not behave like a mixture. Good colophonies are exactly alike, whatever their origin may be, and the fusion and boiling points are the same for all. Flückiger has shown that the pimaric acid found in the Bordeaux colophony was confused with galipot, and, having taken up the chemistry of colophony, he proved that it was abietic anhydride. This fact is easily verified, for in contact with an oxide, or better with a hydrate, colophony combines with it like an acid, and forms an abietate. Thus the hard mass got when powdered litharge is added to a rosin varnish is abietate of lead.

Colophony is a brittle substance, and a bad conductor of heat or electricity. It is partly soluble in alcohol and very soluble in oil of turpentine, which will dissolve twice its weight of rosin at 71 to 75 degrees C. Colophony is unaffected by water, but dissolves in boiling alkaline solution, forming abietates. In this way the abietate of potassium or sodium can be formed and other metallic abietates from the alkaline abietate by double decomposition. These abietates are of ill-defined composition. Some of them are real salts, more or less basic, of abietic acid; while others are polymerisation products, and constitute resinates soluble in turpentine,

in acetone, and in nearly all very volatile mineral solvents.

In commerce, the most important products got from colophony are obtained by fractional distillation of it at temperatures varying from 150 to 400 degrees C. In this way four liquid hydrocarbons are isolated: Retinaphtha, boiling at 108 degrees C.; retinyl, boiling at 150 degrees; retinol, boiling at 240 degrees; metanaphthanil, boiling at 325 degrees.

A mixture of these liquids constitutes crude rosin oil. The first two, mixed with a little turpentine, give a light and volatile liquid serving as a substitute for turpentine for nearly all purposes, especially for making floor varnishes, waxes, and caustics, and is only about one-third of the price of pure turpentine. All rosin oils, whatever their density being colored, they cannot be used for painting light shades, but they answer excellently as a vehicle for dark hues, black, or inferior ochres.

On treating the distillation got above 200 degrees C. with slaked lime, we get a soft, brown matter serving as axle grease. Some makers sell this resinate under the name of *"graisse consistante,"* and declare that their product resembles petroleum, and can replace the grease got in refining oil. This is, however, a fraud. This lime compound, essentially organic in its nature, ought not to be used—at least, by itself—except for heavy vehicles, and cannot replace vaselines and ozokerites whatever may be the temperature of the brasses or the speed of rotation of the journals.

The distillation of colophony in a closed vessel gives rise to a gas of great illuminating power, especially if care has been taken to prevent the mass from catching fire. This gas will never rival coal gas, as its manufaeture is too troublesome, but it might be used with great advantage on a small scale for lighting farms, country houses and other places far from a public supply of gas. In this way the danger and inconvenienee of using acetylene would be avoided. Colophony gas would be rather expensive, but the present price of the raw material is no guide to the cost of the gas. All the bodies constituting the turpentine industry have risen greatly in price of late in consequence of a sort of monopoly. Happily, the stocks will soon be exhausted, and although colophony is worth 19 centimes per kilogramme in 1903, it is probable that next year it will return to its normal price of about 10 centimes, or in 1905 at the latest.

Another use of colophony which may become important depends on its forming a reducing agent when mixed with charcoal powder. This mixture is used for eonverting barium sulphate into sulphide, the colophony probably causing the formation of carbonic oxide, which eombines with the oxygen of the sulphate to form earbonie acid.

The chief uses of colophony, then, as a raw material are in the production of rosin oils, of resinates of illuminating gas, and of redueing powers for metallurgy.—"Cosmos," translated by Oil and Colourman's Journal.

Corrosive Properties of Tung Oil.

I. Hertkorn (Chem. Ziet.) states that several patents have been taken out for the use of tung oil or Chinese wood oil in eosmetic preparations, and shows that this oil is totally unfit for such purposes. The oil produees severe ulcerations when brought in contact with the skin; in several instanees careless handling resulted in the formation of ulcers.

Improvement In The Manufacture of Soda And Chlorine By Means of Sodium Chloride In Solution.

In the present manufacture of chlorine and soda by means of electrolysis, two difficulties are met with: (1) Employment and slight durability of diaphragms; (2) Separation of the soda produced, whieh is mingled in solution with sodium chloride. The purpose of the patentees has been to avoid these two difficulties, and to prevent the wear of the positive electrodes resulting from the formation of sodium hypoehlorate within the solution.

The apparatus prevents the soda formed from mixing with the solution, and the ehlorine does not come in contact with it. Cold is utilized for separating the soda from the sodium chloride either by decantation, filtering or other method.

The solution of soda may be utilized as it is, or concentrated or solidified; the solution of sodium chloride may be brought back into the manufacture. Cold can be employed directly in the vat, whatever may be the system of electrolyzing, or in separate receivers, in which the solution is introdueed by any method.

In the receivers containing the solutions of soda and sodium chloride, other receivers may be operated, in which knives can be put in movement in an uncongealable solution, detaching the crystals as they are formed on these last-named receivers.

The action of electricity is designed to cause the disengagement of chlorine; the movement of rotation is designed to bring back the crystals of caustic soda.

The following are the distinctive features: (1) The application of cold; (2) General arrangement allowing of utilizing the electricity produced by the oxidation of the sodium as it is formed; (3) The facility of produeing only potassium or sodium, or even magnesium or other metals, on lowering the temperature in order that they may become passive; that is, that the oxidation or other combinations may not interfere with the electrolysis; (4) The arrangement of the apparatus allowing of the removal of the soda as it is produced; (5) Arrangement

allowing the removal of the chlorine without coming in contact with caustic soda; (6) Opportunity of collecting the soda or sodium or other similar bodies under a layer of naphtha or other light liquid, which may protect them; (7) Application of a rotary apparatus to the method of separation of these bodies; (8) Application of cold in the manufacture of soda by electrolysis, as has been described, may also be used for solutions of sodium chloride sufficiently cooled before or during their passage in the apparatus: the same process may also be applied to sulphites or other bodies.—Revue de Chimie Industrielle.

Adulterated Soda Crystals.

Mr. Charles E. Davidson, managing director of the United Alkali Company, Limited, has addressed the following letter to the press: "Will you permit me to explain to your readers the most recent and the most unfair form of competition the English makers of soda crystals for washing are subjected in home markets. Foreign competitors have long been anxious to capture the trade of the United Kingdom in the above article, but in spite of the system of free imports, they find themselves apparently unable to compete successfully. They have recently, therefore, adopted a new policy, viz.: They adulterate their soda crystals heavily with Glauber salts, or sulphate of soda, and sell this adulterated article as soda crystals in violent competition with our product. Soda crystals as supplied by English makers are practically pure, and contain 98 per cent. of hydrated carbonate of soda. Supplies of adulterated foreign crystals are arriving in this part; we have examined a sample of a parcel recently landed in Newcastle quay, and find it adulterated to the extent of 46 per cent. with sulphate of soda, a cheap adulterant, and useless for the purposes for which soda crystals are required. We would warn specially the grocers and the distributors of this city and neighborhood against the purchase of this most inferior article, and which cannot possibly give satisfaction to the purchaser. The practice resorted to is objectionable in the extreme, and all honest traders should assist the attempt to stop it. The latest reports of our travelers are to the effect that, in other districts of the United Kingdom, similar imports of foreign soda crystals are arriving adulterated to the extent of 60 to 95 per cent."

The Candle-Fish.

The marine animals of the world, according to figures gathered by the United States Fish Commission, annually yield 18,300,000 gallons of valuable oils for the use of man. Of this enormous quantity 5,500,000 gallons are derived from whales and seals,, 5,300,000 gallons from the livers of cod and sharks, and 7,500,000 gallons from menhaden, herring and other fishes.

The most remarkable fish-oil is obtained from the elachon or candle-fish, which is so rich in fat that the Indians of the Northwest Coast use it instead of a candle. Stuck in the neck of a bottle, and ignited with a match, it will burn brilliantly for a long while, giving a light that one may read by. The species is vastly numerous, running along shore in schools numbering billions, so that the natives need never lack candles of this kind. But they know how to extract from the fish its oil, which is used in lamps and as a substitute for butter.

The oils of the dugong and manate, though almost unknown in this part of the world, are of importance in Brazil, and in Australia and New Zealand also. Dugong oil, which is almost as limpid as water, is utilized as a substitute for butter and for cooking. Manatee oil is similarly employed, but is chiefly valued as a medicine, possessing properties of this kind which cause it to be esteemed superior to cod-liver oil. Without the unpleasantness of the latter, it has like virtues.

Alligator oil is much used by hunters and "swampers" in the Gulf States as an illuminant and for softening leather. To similar purposes, especially currying, are applied the oils derived from many species of turtles, the chief supply being obtained from the Amazon and Orinoco rivers. Along those streams immense numbers of turtles are found, and even their eggs, which are laid in the sandy banks, are collected for conversion into oil. The eggs are crushed, covered with water, and exposed to the sun, the oil soon coming to the surface, from which it is skimmed. One gallon of oil is extracted in this way from 3,000 eggs. Para receives 50,000 gallons of turtle oil in a twelvemonth, and more than an equal quantity is consumed by the up-country natives in the same period for cooking and for illuminating purposes.

PATENTS AND TRADE-MARKS.

The following list of recent Patents and Trade-Marks is reported by W. G. HENDERSON, Solicitor of American and Foreign Patents and Trade-Marks, Norris Bldg., Washington, D. C. A copy of any of the following will be furnished by him for 15 cents.

PATENTS.

741,981. Receptacle for feeding liquid soap. George A. Schmidt, Jr., Chicago, Ill. (Doubtful.)

742,912. Soap-supplier. John Schwechler, assignor of one-half to O. J. S. Gaige, Philadelphia, Pa.

LABELS.

10,433. Title: "Sunoleum." (For washing compound.) The Sunoleum Mfg. Co., Cleveland, Ohio.

10,471. Title: "Pansy Soap." (For soap.) Max Escher, Buffalo, N. Y.

10,472. Title: "Rex Soap." (For soap.) Max Escher, Buffalo, N. Y.

10,473. Title: "Mederine Soap." (For soap.) L. W. Leithhead Drug Co., Duluth, Minn.

TRADE-MARKS.

41,373. Soap. O'Rourke & Hurley, Littlefalls, N. Y. The representation of a seal surrounded by a circular border having a serrated outer edge.

41,399. Washing-fluid soap. Frank Cash, King Mills, Ark. The representation of a group of women washing clothes. On the left-hand side of the picture is the representation of clothing strung on a line and under the clothing an empty washpot, and the representation of a woman standing near by, with one arm stretched out pointing to the clothing strung out. On the right-hand side of the picture is the representation of a boiling-pot, tables, a washtub and two washerwomen, one standing with a bat in her hand and the other busily engaged in washing clothes.

AROUND THE SOAP FACTORIES.

News-items sent us by our readers will find prompt attention in this column

The Paper Makers' Chemical Co., of Easton, Pa., intends to add the manufacture of mill soaps to that of their other products.

The news comes from Austria that Alvin Engelhardt died on October 10th last. Readers of German soap papers are familiar with the name of the deceased, as he was one of the oldest and most prolific writers on soap making.

The Georgia Soap Company, of Atlanta, Ga., has been sold to Mr. C. G. Hewitt, of the Globe Refining Company, of Louisville, Ky., and other parties. It is said to be the intention of the new owners to increase the capacity and add a cottonseed oil refinery.

Almost as if in response to one of our editorials of last month, the La Crosse, Wis., *Chronicle* reports an item of the kind we just criticized. It says literally: "The monstrous plant of the Kirk Soap Co., of Chicago, may be moved to La Crosse. This concern is the largest and wealthiest soap manufacturer in the world."

In Common Pleas Court a bill of equity was filed by about twenty residents of Lower St. Clair and Baldwin townships against the Schlipp Soap Company, of Pittsburg, Pa., asking the court to declare the factory and plant of the defendant company a nuisance. It is alleged that the plant is operating a schindery in violation of a decree of the court made on July 18, 1903, enjoining the defendant company from permitting noxious odors and gases to escape from the schindery. The court's decree required the plant to operate without emitting the vapors, and the present bill now asks that the entire plant be declared a nuisance and that the defendant company be restrained from taking carcasses of animals into the vicinity.

Incorporated: Tripoline Manufacturing Company, of Beaumont, capital stock $500,000. Purpose, to manufacture soaps and other cleansing preparations. Incorporators: F. E. Carroll, W. J. Crawford, J. L. Cunningham, G. W. Carroll, T. V. Smelker, L. H. Shurlock, R S. Waite and E. A. Luck, all of Beaumont.

The American Mineral Wax Mining Company, at East Orange, N. J. Capital, $10,000. Incorporators, James B. Richardson, Francis S. Hutchins and Charles A. Green, all of East Orange, N. J.

Allen Conkling, of Chicago, is the inventor of a new soap dish permitting the under side of the cake to dry as quickly as the top. To introduce it, the Conkling Chemical Co. offer one of these dishes and three cakes of their "Bitter Sweet" toilet soap for a dollar.

For many years—nearly a century—the name of John Knight has been universally known in connection with the celebrated Primrose soap, which was originated by the founder of the business, the late Mr. John Knight, of Silvertown, England. The well-known qualities of this high-classed detergent have been maintained by four generations of the founder's family, and for over thirty years it has been used in the royal household, where its superior properties have now been graciously acknowledged by bestowal of the Royal Warrant. Messrs. John Knight & Sons are now "Purveyors by Warrant of Appointment to His Majesty King Edward VII," and in congratulating them upon receiving this well earned honor, we wish them increased prosperity.

Complaint has been lodged with the Jersey City Board of Health against the E. F. Jones Company's soap factory on Florence street, near Fairmount avenue. It was signed by a number of persons living in the vicinity, who allege that at times objectionable odors are emitted and ask that the nuisance be abated. It was referred to the Health Inspector to investigate and act.

A representative of the Murdock Land Company is authority for the statement that a Chicago company has purchased a ten-acre site in the southeastern suburbs of Oklahoma City, with a view to locating a large soap

manufacturing plant there. An investment of $300,000 is contemplated.

Joseph Stern & Sons' soap works, at 632 W. 40th street, New York City, was the scene of an explosion two weeks ago, when the bottom of a tank was blown out by the steam pressure. The hot contents of the tank injured five men so severely that they had to be taken to a hospital; fortunately none of them were fatally injured.

W H. Lever is building a new Congregational church at Port Sunlight, at a cost of £25,000. He is appointing the Congregational Union of England and Wales (incorporated) as trustees of the property. At their committee meeting this week the Union gratefully accepted Mr. Lever's generous gift, subject to the approval of the terms of the trust by a small sub-committee. One important reservation in the trust deed is that, in the event of the premises ever being required by Mr. Lever's firm for business purposes, he will re-purchase them at a sum of not less than £50,000, which shall be expended by the trustees upon similar property on another site in the same town.

A new brick addition, hardly beyond the course of erection, to the Prouty-Bowler soap factory at Des Moines, Iowa, collapsed on the evening of October 28, when all but the night watchman had left. The latter was injured somewhat, but his escape from death was considered miraculous.

The cause of the collapse was apparently an excessive weight of materials and soap stored in one place, when they ought to have been distributed more evenly over the floors. The boilers and machinery are uninjured, but so far as the new addition is concerned, it is a complete wreck and will have to be rebuilt from the foundation. It was 33x132 feet, two stories high.

There was at first a rumor of a dynamite plot as the cause of the catastrophe, but it had no foundation in fact. The loss is estimated at $10,000 to $12,000. The structure will be rebuilt.

J. French, secretary of the Procter & Gamble Co., of Cincinnati, died suddenly from heart failure last month.

The employes of Colgate & Co., have organized a Mutual Aid and Sick Benefit Society. They hold a meeting once a month, in which a social session follows the business meeting. Apart from their chief object—caring for members disabled by sickness—they will have annual entertainments for the purpose of becoming better acquainted, enjoying life, and adding to the funds of the organization.

A petition in bankruptcy has been filed against Peete B. Clarke, of New York, who is interested in quite a number of companies, among which is also the Bell & Bogart Soap Co. His liabilities are given as $190,000, and one of the items making up this sum is a debt of $6,400 for soap materials sold to the Price Mfg. Co., which debt is said to have been assumed by Mr. Clarke when he purchased the assets of the company.

James Beach & Sons, of Dubuque, Iowa, are getting ready to increase their capacity by about 75 per cent. As it is now they are crowded and more room is needed. The building will be of brick, 58x32 and four stories high. The east wall will be removed and the addition annexed to the main building. The addition will cost about $9,000. New machinery will be installed, thus making greater space for the drying and storing. The foundation will be laid this fall, and the building will be erected as soon as possible.

We recently made mention of the Allen Soap Co., recently incorporated at Lexington, Ky. Concerning its plant a local report says:

"Lexington people familiar with the old Shely Soap Works, on the Frankfort pike, would hardly recognize



This shows one of many mixers applied to

Dopp Seamless Steam Jacket Kettles.

We have a large variety of stock patterns, and can surely suit your particular case.

H. W. DOPP CO., 1300-1310 Niagara St., **BUFFALO, N. Y.**

the place since the transformation that has been wrought by the new company which recently absorbed the property.

"Extensive improvements have been made which will more than double the capacity ef the plant. A new two-story structure sixty feet long has been erected. New machinery, consisting of boilers, kettles, cutters, frames, etc., have been installed and arrangements made to increase the output of the factory.

"The old building is still being used, but about Dec. 1 the management expects to occupy the new building, when the working force will be materially increased. Five brands of soap are manufactured here, and on account of its superiority find a ready sale.

"The plant recently passed into the hands of the Allen Soap Co., incorporated, with a capital stock of $10,000. City Jailer J. W. Masner, the well-known Democratic politician, is president, and Col. E. J. Allen, secretary and general manager."

P. J. Hurley has made estimates on a soap factory and boiler house, the first being 80x80 feet, for the Philadelphia Soap Factory Company, at Camden. The factory will be a five-story brick building and the boiler house will be two stories in height."

Charles P. Grogan, of Los Angeles, Cal., has launched out in a new enterprise, namely the manufacture of soap, with olive oil as the chief ingredient. It is found in the season's handling of olives that there is a considerable proportion of olives too much bruised for pickles. Oil made from such olives does not keep well, but makes a good soap. No animal fat is used in its manufacture and only a small portion of cocoanut oil is used which gives the finished produce a white appearance. The cakes are olive-shaped and neatly packed and a small amount of perfume is used which is scarcely apparent.

The Group of Chemical and Pharmaceutical Arts is to be the largest group in the Liberal Arts Department at the St. Louis Exposition. It is numbered "Group 23" and subdivided into classes numbered from class 102 to 126.

Class 104 of these comprises:—Equipment and processes used in the chemical treatment of animal substances, with their products; superphosphates, soaps, candles, glycerine.

Additions to Our Brand List.

347 Lockwood Soap Co., Kansas City, Mo.

Allpine Tar 337
Ammonaptha 347
Bestever 286
Bleachem Soap 341
Breath of Heliotrope 337
Breath of Lilacs 337
Breath of Roses 337
Breath of Violets 337
Brightshine 106
Cream Naphtha 343
Egg Tar; Lee Specialty Co., Detroit, Mich.
Gasene 106
Gasoline Laundry Soap 120
Green Oil Soap 341
Home Pride 347
India Castile 337
La Platte 337
Lily Blossoms 337
Marigold 106
Milo 106
Monahan's Green Soap 341
Orchid Blossoms 337
Oriental Tar 337
Polar Bear 106
Queen Regent 337
Quo Vadis 337
Raven Tar 337
Rio Grande 337
Rose Blossoms 337
Summer Blossoms 337
Sunburst 106
Tar Egg 347
Top Notch 106
Transparent Brilliant 337
Transparent Rose 337
Veribest 286
Violet Blossoms 337
Yellowstone 106

REVOLUTION!

We can save you 95 per cent. in time and dry your soap economically and guarantee best results.

Write to

American Vacuum Drying Machine Company

120 Liberty Street - - NEW YORK

SUPPLEMENTARY LIST

OF THE

BRANDS OF SOAP MANUFACTURED IN THE UNITED STATES

Including also the Brands of Foreign Manufacture Registered as Trade-Marks in this Country.

NOTE: This list is compiled with the greatest possible care, but the publisher does not assume any responsibility other than to correct and to complete the list according to data obtained from official sources or furnished by the trade. Brands registered in the patent office as trade-marks or labels are given with the name of the party registering same. Brands or names marked * are those which were found to be used by more than one firm or the owner of which could not be ascertained. ☞ SEE THAT ALL YOUR BRANDS ARE ENTERED IN YOUR NAME.

3—Liberty Mfg. Co., Chicago.
344 Home Soap Co., N.Y.
345 Columbia Ref'g. & M'f'g Co. Ltd, New Orleans.

Abrado, Floridine Mfg. Co., New York.
A Happy Home 4
Alabama Tar 3
All-need it 286
Amazon Coco 337
Amber Rose 346
Anchor Castile 3
Angelus 54
Antelope 3
Antillia 2
Anty Up 340
Apple Blossom 337
Atoka 346

Baby Mine 8
Bannock 3
Beauty Belle 151
Beaumont's Shaving 346
Beef Oil 340
Bell's Brown 343
Bell's Naphtha 343
Ben Hur 3
Bicycle 3
Big Glycerine 3
Billy-Goat 340
Blossom Bouquet 3
Blue Chip 340
Blue C ond 2
Blue Coco 340
Blue Family 340
Blue Monday 340
Blue Olive 340
Boast 3
Botica Francisca 3
Bouquet Chic 3
Bouquet Reverie 3
Brazilian Bath 3
Bunny—Hewitt Bros. Soap Co. Dayton, Ohio.

Calcutta Castile 337
Calumet 3
Camille 3
Ceske Slovonsky 3
Ceske Polski 3
Chlorine 340
Cleaneasy 286
Climax Chip 54
Cloth Pin 340
Cloths Pin 340
Coa Nut 346
Coca Foam 3
Columbia 3
Conto & Elroy Castile 2
Credential Shaving Stic 6
Crown Princess 337
Crystal Honey 346
Crystal Sulphur 3
Crystal Palace 3
Crystal Transparent Tar 3
" " Carbolic 3
Cuban Rose 3
Cuta Alba 3
Cultoderma Medicated 3
Cycle 3

Dactylis 11
Dermicura 327
Diadem 3
Drnggist's Transparent 3
Dr. Allens Medicated 3
Durango Best, Durango (Colo.) Soap Co.

Elk's Bouquet 346
Empress Eugenie 115
Empire Geraninm 337
Eucryl Eucryl Ltd., Hull, England.
Eureka 3
Evergreen 286
Expert 286

Facine 340
Fairbank's Primrose 2
" Scouring 2
" German Fam. 2
" Glycerine-Tar 2
" Mottled Germ'n
" Olive 2
" Navy Blue 2
Federal Family 1
Floral Feast 115
Flannel 2
Flip 345
Force, Cincinnati Soap Co., Cincinnati, Ohio.
Fragrant Honey 2
French Violette 3
Frog 340

Gem Wash. Compound, Clara Pearce, Philadelphia.
Georgia Oleine 29
Geronne Violette 3
Geyser 343
Giant 3
Gloriola 29
Glycerated Tar 346
Glycerderma 3
Golden Rose 3
Gold Seal Soap Flour 340
Goodhair, Goodhair Remedy Co., Newark, Ohio.
Green Olive Chip 340
Green Palm 340
Green Seal Chip 340
Gusher 340

Hard Maple 155
Heliotrope Blanc 3
Heliotrope Ideal 334
Helix 54
Hi Lo 96
Home Castile 3
Horse Oil Harness 340
Hots Springs Bath 3
Hy-Lo 96

Ideal Bouquet 3
Ideal Family 3
Idyllwild 54
I-Lika-U 286
Ilo-Ilo 340
Imperial Crown 3
Iroquois Maiden 115

Jack & Jill 340
Jack Pot 340
Japanese Bath 3
Jerone Bouquet 3
Jewel 2
Jus de Framboise 3

Kaska Bouquet 346
Kazan 343
Kimola, Bell Mg. Co., St. Louis, Mo.
King Solomon's Rock Oil S. Mnross Jenkins, N. Y.

Lakeside (Scouring) 2
La Mariposa 54
Lamsuet 3
Lasco Napthol 54
Last Long 286.
La Virtho, John S. Nichols, New York.
Le Fameux 16
Le Fameux Rose de Seville 16
Le Fameux Violette de Sevill 16
Le Fameux Peau d'Espagne 16
Le Fameux Jockey Club 16
Lemola Toilet, Lemola Soap Co., Los Angeles, Cal.
Lemolive 54
Lemonine, E. H. Kraut, Cincinnati.
Lettuce Cream 3
Libertys London Transparent 3
Liberty's Quartette 3
Liberty's Genuine Bouquet 3
Limberine, E. A. Warren, St. Paul, Minn.
Lion 2
Lisette 3
Little Sweetheart 346
Llama 3
Long Shot 345
Lotus Bouquet 3
Lotus Honey 3
Lotus Glycerine 3

Madeira 16
Madeira Almond Cream 16
Madeira Cucumber Cream 16
Madeira Lettuce Cream 16
Madeira Olive Cream 16
Marjorie 337
Marveline 300
Marvelo, Natioval Process Co, Rochester, N. Y.
May Field Bouquet 346
kina Skin 346
Maxine Elliott 337
Medical Lake 3
Medicated Witch Hazel 3
Mentholatum Corn Oil S. 169
Mexicano 54
Michigan Family 2
Mildred 337
Millens Cream 3
Millens Toilet 3
Millens Antiseptic 3
Millens Tar 3
Miners Tar 3
Milk Bath 3
Monroe 3
Moss Rose Borax 3
Mox-Nix 340

Naphtha Toilet 340
Naphthal 340
Napthol 340
Naptholive 340
Naptha Washing Powder—Hnnt Mfg. Co., Cincinnati, Ohio.
Natural Gas 340
Next-To. Phoenix Chem'l Co. New York.
Nolabor 340
Northern Star 3
Noxlabor 340
Noxwork 340
No. 81 White Rose Glycerine 3
No. 3725 White Rose Glycerine 3
No Name 3

Old English Brown Windsor 346
Old English Blue 3
Old Linen 3
Old Time Tar 3
Olive Bath 3
Orinoco 337
Orris Unscented 337
Otis Lightning, C. H. Waterhouse, Essex, Conn.
Our Baby's Bath 3
Our Own 3
Our Special 3
Oxolive 340
Oxigen 340
Ox Oil 340

Palmo 340
Palm Oil S. Powder 340
Palm Soap Flour 340
Parisian Toilet 54
Passion Rose 298
" Violet 298
" Pink 298
" Lily 298
Peace 340
Peach Blue 340
Peerless Country Club 337
Peerless Forest Violet 337
Peerless Lily of the Valley 337
Peerless New Mown Hay 337
Pen Yen 340
Perfecto 121
Plantol Lever Bros., Limited Port Sunlight, England.
Ponciue Erasive 3
Pony Up 340
Popular Blossom 3
Premium, Davenport (Iowa) Soap Co.
Premium W. Powder, Davenport (Iowa) Soap Co.
Preventionette, Willard Chemical Co., Malden, Mass.
Pure Large Oval 3

Queen Complexion 3
Quick and Easy 56

Radiant Violet 3
Red Raven 346
Reve d'Amour 3
Rex Cremo 340
Rex Family 340
Rex Liquid Soap 340
Rexolene 340
Rexolive 340
Rockford Scouring 2
Romola 3
Rose d'Or 3
Rose Glycerine 3
Rose Immortelle
Royal Lily 16
Rubbo, Lever Bros., Limited, England.

Safeguard Carbolc 53
Samson's Transparent Tar 3
Sandalwood 3
Sani-Tari Skin. Citizens Wholesale Supply Co., Columbus, O.
Santa Rex Castile 2
Saner's Complexion 3
Savon White Rose 3
" Jockey club 3
" Violete de Parme 3
" Hyacinth 3
Savon Carnation 337
Savon Heliotrope 337
Savon Lilac 337
Savon Queen Regent 337
Savon Quo Vadis 337
Savon Rose Marechal Niel 337
Savoy Alpine Violet 337
Savoy Carnation 337
Savoy Jockey Club 337
Savoy Primrose 337
Sayf Syde, Sayf-Syde Soap Co., Cincinnati.
Sentinel 340
Sentiy 340
Snow Violet 3
Solos Laundry, Nelson Mfg. Co., Iowa City, Iowa.
Sorosis 340
Stainoff, D. M. Steward Chattanooga.
Stainilgo, Kendall-Davis Co, Boston, Mass.
Star Mottled 2
Star Tar 286
Success Scouring Sand Soap Taeony Soap Co., Phil'a
Superior Transparent Glycerine 3
Sweet Blossom 2

Tew-Fer 96
Tode 340
Tonla Tonla 334
Town Market 3
Trash Mover 286
Twin 2
Twin Rose 3
Two Jacks 340

Uncle Sam's Floating 120
U-Lika-Me 286

Vegetal Bouquet 3
Vestal Carnation 16
Vestal Lilac 16
Vestibule 3
Vineta 3
Vinola Cream 3
Violette Grandfleur 334
Violette Revee 3
Violet de Parme 337

Wego 96
Wendela 3
Whale 3
White Fairy 2
White Pine Castile 344
White Rose Glycerine 3
White Rose Honey 3
White Saxony 3
White Wonder 346
Windsor 2
Winner 29
Witch Hazel Bath 3
Witch Hazel Bouquet 3
Witch Hazel Shaving 3
World's Fair 2
World's Work 53

Yellow Dog 340
Yellow Palm 340
Yellow Rose 3

Zingarella 3
Zo-Zo White Tar 346
Zanette 3

The Latest Complete Edition of Our

List of Soap Brands

was published on Jan. 1st, 1902. All new brands and changes that have been reported since that date are contained in the "Supplementary List" published on another page of this paper.

DRUGS, OILS AND PAINTS,

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These rates are for advs. up to five lines in length; additional lines more in proportion.

In answering any of these advertisements never send original documents, testimonials, etc., especially when the advertisers' identity is not disclosed.

Don't waste time asking us for the names of parties advertising in this column without giving their address, as they will not be revealed.

POSITION WANTED.

Position wanted for a Soapmaker or Superintendent. Satisfactory in every detail. Please address, LAUNDRY AND TEXTILE, care of American Soap Journal, Milwaukee, Wis.

Position wanted by a practical soapmaker in both toilet and laundry also cold made; recover glycerine out of spent lye and have the kwowledge of soap chemistry. Can give best of references as to character and ability. If interested address: W. X., care of this paper.

A young, energetic man; now manager of a soap company in Canada, doing over 50 per cent. of the textile trade in Canada, desires making a change. Will accept a position as manager or assistant general manager of a concern desiring a capable man who is willing to take hold of anything. Address J. N. W., care of American Soap Journal, Milwaukee, Wis.

An experienced chemist and soapmaker wants a position. Have had 17 years experience in toilet and laundry soap making, glycerine extraction, etc., and am considered extra good on cotton seed foots soaps. Have been well trained as a soap and oil chemist. A 1 references. Address "Soap Chemist," 2104 West End avenue, Nashville, Tenn.

A chemist and soapmaker wants to make a change. Thoroughly up-to-date on all kinds of soaps, face creams, &c. Best of references, including present employers. Address "Thorough," care of American Soap Journal, Milwaukee. Wis.

SITUATION WANTED.

Situation wanted by thoroughly competent and reliable soapmaker. Address: Y. Z., care of American Soap Journal, Milwaukee, Wis.

FOR SALE.

For Sale: One large continuous Screw Plodder, one set soap Cutting Machines complete, and one Boomer & Boschert Oil Press, used very little and all in very good condition. Cheap for Cash. Address: V. W. care of American Soap Journal, Milwaukee, Wis.

For Sale: Glass moulds (and iron moulds to make them) for moulding cheap toilet soaps. For particulars address: U. S. G., care American Soap Journal, Milwaukee, Wis.

For Sale: A modern soap factory with best facilities for manufacturing on an economical basis, located in a fine city in the middle west, that can not be excelled for market of product, or getting raw material, also best social and educational facilities. Owner wants to retire on account of failing health; will sell on good terms, or with the right party may retain an interest in same. This is an opportunity to secure a bargain in a money making business. Address: "E. B. J." care of American Soap Journal and Mfg. Chemist.

HARD-WOOD BARRELS BOUGHT.

We buy empty hard-wood barrels of any description. KRELL BROTHERS, 1612 Cherry Street, Toledo, Ohio.

The American Soap Journal & Manufacturing Chemist.

A MONTHLY JOURNAL OF THE MANUFACTURING CHEMICAL INDUSTRIES.

DR. HENRY GATHMANN, PUBLISHER.
2707 North Ave, Milwaukee.

MILWAUKEE, WIS., January 1, 1905.

VOL. XIV. No. 5.

THE AMERICAN SOAP JOURNAL AND MANUFACTURING CHEMIST.

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OFFICE OF PUBLICATION:

2707 NORTH AVENUE, MILWAUKEE, WIS., U. S. A.

The AMERICAN SOAP JOURNAL AND MANUFACTURING CHEMIST is devoted to the interests of all manufacturing industries of a chemical character, and is an absolutely independent publication. It is the only newspaper of its kind in America and has also a large foreign circulation.

For Subscription and Advertising rates see above.

Communications on industrial subjects, news items, and any information suitable for printing in these columns, are solicited and will have due attention.

Readers in search of machinery, supplies etc., not advertised in these columns, are invited to write us and we shall endeavor to supply the information.

Address all communications to

DR. HENRY GATHMANN, Publisher,
2707 NORTH AVENUE,
MILWAUKEE, WIS., U. S. A.

A Happy New Year!

And don't neglect to send us your new brands for entry on our list.

After all, the proposition to make a joint exhibit at the World's Fair has been abandoned by the Manufacturing Perfumers' Association of the U. S.

The number of firms interested was insufficient to warrant the great expense.

By way of variety we publish in this issue of our JOURNAL some of the letters which reached our office last month in the regular course of business.

In their way these letters reflect the thoughts and tribulations of readers in many parts of the world, and are therefore not devoid of interest to all our subscribers. For many years every single month has brought us a (more or less) similar collection of missives and if we have refrained from publishing them heretofore, it was simply because such a large majority of them are distinctly *not* for publication, that the few remaining ones seemed too insignificant to represent the correspondence passing through this office. We therefore have so far made it a practice to publish only such letters as were distinctly intended for publication by their writers.

So also this month, we are obliged to abstain from printing a number of letters which were received and that would look well in print; and we must be content, furthermore (for obvious reasons), to omit the signatures of several other letters, among those which we do print, but on the whole we have got together from our last month's file a nice little collection of letters that are fairly representative of the unheralded work which this paper has for many years been called upon to perform month after month.

In thus departing, for once, from our previous custom, we have several objects in view. For one thing, in these days of yellow journalism, it may be as well to thereby emphasize the fact that the AMERICAN SOAP JOURNAL is unostentatiously doing an amount of useful work which, but for our adherence to former habits, might be heralded under the modern six-inch scare heads and in special afternoon edition of this paper. Again, we see in these letters so much of live interest, that we cannot help thinking that our readers will be glad to read their contents for a change. And then, you know, the

holidays have made other items a little scarce, and these letters will do very well to fill up. Lastly, several of the letters printed are invitations to our readers to reply.

And, by the way, we are reminded to say that nearly every one of the thousands of favors asked of us in the course of the years during which we have published this paper, was accompanied by the assurance that the writers would be "pleased to reciprocate," or words to that effect.

It is rather strange then, that, when we ask for information of any sort for the benefit of some reader or other, less than half a dozen friends of the JOURNAL can ever be counted upon as offering a reply of any kind whatever.

What has become of the inventive genius which used to disport so exuberantly in the soap industry ten years or so ago? Time was, when no month went by in which the Patent Office did not grant an inventor or two the exclusive privilege of exploiting some process of making soap, the like of which was never heard before (or since). Now we rarely hear of such a thing.

Not that we really miss these weird inventions particularly; it is the season of the year that puts such reminiscences into our head.

Considering that (with a few exceptions which only prove the rule) the formerly luxurious crop of soap patents was generally secured by totally impractieable "inventors," there is no easily discovered reason why this crop should fail now.

Can it be that we have fallen upon times where even the promiscuous inventor realizes that soap making is not necessarily gold mining?

Speaking seriously, we believe—as we shall presently explain—that the many simply ridiculous patents secured in the past were rarely applied for by actual soap makers. There are at all times a great many people who feel that they can and must invent something or other, and this horde of would-be inventors turns now to one object and later to another. Thus for a time they believed soap making the most profitable of undertakings and—presto—new processes of making soap by utterly impossible methods, were invented in gorgeous profusion. Apparently they have abandoned the field now, and have taken to new pursuits.

If this view needs any supporting evidence, we think we have that in the many patents which have been applied for during the last two or three years on a "Non-Refillable Bottle." Somehow a rumor went abroad that a large fortune awaited the man, woman or ehild, who would invent a bottle that—onee it was filled with perfume, ink, beer, or what not—could not possibly be refilled again after being emptied. (This was supposed to proteet the original manufacturer against spurious goods being put up in his own labelled bottles.) There have been invented and patented any number of such bottles since that rumor started, and, although none of the inventors have so far reaped the expected harvest, new patents on a non-refillable bottle eome around just as regularly as does the Weekly Patent Office Gazette itself. It seems altogether likely, therefore, that the inventive genius formerly directed against the soap making industry is now spending its fury on the non-refillable bottle, and on air ships and sueh, and it may be a long time from now before we shall again be awe-struck, as of yore, by the invention of a new proeess of soap making. We are glad to think so, anyway.

P. S.—The foregoing remarks are meant to apply to present-day conditions in the United States of America. Our readers in foreign countries, of course, will understand that we realize fully the probability that their condition is very different. For instance, we can almost "remember," so to speak, the feelings of our friends in England when they will find the following specification on their patent records of most recent date:

"This invention relates to a new toilet soap eomprising a reserve of scent intended to eompensate for losses resulting from the volatilization of the essences with which the soap is impregnated, when being manufactured.

"The soap is made in two parts: The former—eup-shaped—is provided with a shoulder, and the second—plug-shaped cover—is also provided with a shoulder, so that a free space is left between the lower surface of the cover and the bottom of the cup, which, when the soap is being manufactured, is filled with the essential oil before closing up the cup with the plug. The soap paste already saturated with perfumes during the manufacture, will not absorb, when making up the soap, the essential oils introduced in the aforesaid free space, and these slowly filter into the paste and compensate for the losses resulting from the volatilization of the essences.

"This method also permits the soap to be perfumed after its mechanieal treatment and consequently permits it to be seented, without the greater portion of the perfume being lost by evaporation.

"The second part acting as a plug ean be made of soap or composed of any paste such as borax, glycerine or tar-paste, ete."

In accordance with the eommands of the Koran, the Sultan of Turkey has issued an order forbidding the use of soap and other cosmetics containing lard or any other product of the pig. It is said that eertain kinds

of soap are being bought up cheaply just now in Turkey, for export, in consequence of the order.

Since the Koran is centuries old, whence comes this late objection of the Sultan to anything piggish?

The premiums offered with soap are gaining in variety. The J. M. Poole Co., of Chicago, advertises: "One thousand bull dogs free with one barrel of No. 22 soap chips"; and the correspondent of an English exchange says: "I notice that a Frankfort firm is selling in London, by means of canvassers, shilling boxes containing six small tablets of toilet soap and an insurance coupon for £500."

From Correspondents.

MANUFACTURE OF BICARBONATE.

Dr. H. Gathmann.

Dear Sir: As subscribers of your American Soap Journal, we wish to ask you to refer us te any person who could install a plant for the manufacture of bicarbonate of soda from carbonate of soda. * * * If possible also give us the names of the publishers of a good up-to-date work on alkalis, either German or English. With thanks, we remain, Yours very truly,

[If anyone interested in the above letter will so inform us, we shall be pleased to place him in communication with our enquirer.—Editor A. S. J.]

ALL ABOARD.

Chattanoooga, Tenn., Dec. 26, 1903.

Dear Sir: Will thank you for a sample copy of your JOURNAL. I am contemplating establishing a soap factory in this city and will want machinery, fixtures and a practical man as manager. Yours, etc.,

N. I. MAYES.

NAPTHA WASHING POWDER.

Hamilton, Ont., Dec. 24, 1903.

Publ. American Soap Journal.

Dear Sir: In your AMERICAN SOAP JOURNAL of Dec. 1, it states on folio 109: "Naptha Washing Powder, Hunt Mfg. Co., Cincinnati, Ohio," and further: "See that all your brands are entered in your name."

In relation to this we enclose you our wrappers and mention that for the space of over two years we have been putting up this powder and have applied to have it registered in Canada, and therefore to give us the entry in your catalogue as the original adopters of this brand of powder; in Canada, at least.

Yours truly, W. H. JUDD & Co.

[The wrappers referred to read "Naptha Washing Powder" and "Naptha Powder, W. H. Judd & Co." We now enter this brand, *for Canada*, in the name of the above writers. We cannot refrain from remarking in this connection, for the guidance of other owners of brands, as well as for Messrs. Judd & Co., that if they wish to have justice done them in our brand list, we are entitled to the same treatment at their hands. There are some manufacturers so retiring in the matter of brands, that we cannot prevail upon them to send us their list; on the contrary, they evidently watch our list closely, and whenever some other manufacturer—perhaps quite innocently—registers with us a brand which our reticent friends have been using, the latter come out with a complaint and want us to change our list. If Messrs. Judd & Co. have been making "Naptha Washing Powder" for two years, they should have sent us the notice just two years ago!

It is not right for any manufacturer to display a total lack of consideration for our list and for those who rely on it, and then to cause us a great deal of extra work whenever they have a grievance due to their own neglect. Moreover, it is not to their own interest.—Editor A. S. J.]

WHO WANTS TO BE LISTED?

Winston-Salem, N. C., Dec. 16, 1903.

American Soap Journal.

Gentlemen: Through the courtesy of Messrs. Colgate & Co., of New York City, we are referred to you for a list of the soap manufacturers of the United States, and we beg to say to you that if you will kindly furnish us this list you will confer on us a favor which it shall be our pleasure to return to you. Very truly yours,

CONSOLIDATED SALES CO.,
Per W. N. Horn.

[Those wishing to be on the list of the writers of the foregoing may send their names to them directly.—Editor A. S. J.]

CURATIVE SKIN SOAP.

Chicago, Dec. 18, 1903.

American Soap Journal, Milwaukee, Wis.

Gentlemen: Can you inform us who makes the soap called "Curative Skin Soap?" An early reply will oblige. Yours very truly,

MARSHALL FIELD & Co.

MACHINERY AND SUPPLIES WANTED.

Memphis, Tenn., Dec. 12, 1903.

American Soap Journal.

Dear Sir: As I anticipate opening a soap plant here in the next 30 days, I would be pleased to have you give me any information you can in regard to buying machinery, supplies, etc. I will not manufacture soap stock to begin with and will have to buy some in bulk. En-

closed please find circular of the best thing on earth in the soap line. Very respectfully,

M. J. STERNBERGER.

Des Moines, Iowa, Dec. 14, 1903.

American Soap Journal.

Gentlemen: I am in the market for soap machinery, for complete outfit. Thought you were the one to write to. Respectfully, J. F. MASON,

1050 21st St.

Chippewa Falls, Wis., Dec. 16, 1903.

Editor American Soap Journal.

Dear Sir: Would you please send me a copy of your American Soap Journal in which I wish to learn where soap machinery, etc., can be obtained, etc. Oblige, yours, A. BELAIR.

AMOUNT OF CAUSTIC NEEDED.

American Soap Journal.

Gentlemen: We have a copy of your book "American Soaps," second edition, 1899. We would ask if you will inform us if there is a later edition, and can you give us some idea of what additions have been made to the book since the edition which we have?

W would also like to ask a question in regard to the manufacture of soft soap. In our book "American Soaps," on page 237, it says there is required for a soft soap 155 to 170 pounds 23°-24° potash lye per one hundred pounds of stock, which would be somewhere about 35 pounds of the solid caustic potash. On the first page of Part VI., it states that there are 19.54 pounds of caustic potash required for the saponification of 100 pounds of tallow, which does not agree with the statement on page 237. Yours truly, —— ——.

[In explanation of the (only apparent) discrepancy in these two statements, it may be said, that in the chapter on the practical manufacture of soft soap the amount of *commercial* potash needed in making a *commercial* soap is referred to, whereas the table in Part VI. of the book gives the amount of *chemically pure* caustic potash required to just exactly neutralize a given amount of stock.—Editor A. S. J.]

WHAT AILS THIS SOAP?

Dr. Henry Gathmann.

Dear Sir: Three or four weeks ago I made a batch of white floating soap of tallow and 15% cocoanut oil. I boiled and settled it the same as I do for a milled toilet soap and it had the appearance of being well settled and all right. After it was cut up it had a tendency to sweat some where it came in contact with the racks on which it was placed to dry, and after it had been pressed and wrapped a few days it sweat so badly that the wrappers became damp and the inside wrapper discolored where it touched the soap.

Will you kindly give me any light you can that will help me to make a satisfactory soap of this kind? You might, perhaps, present the query to the readers of the JOURNAL. Perhaps, though, it would be considered beneath their notice by most soap makers, who really know how. If you do print it, don't print my name, and I won't feel hurt if you do not print it at all.

I refined the stock, taking special pains with it all through. Respectfully yours, —— ——.

A QUESTION OF YIELD.

The American Soap Journal.

Gentlemen: If you are in position to give us a little information, it would be very much appreciated. Would you kindly let us know which produces the more soap and gives better body to the soap—distilled oil or saponified red? Respectfully yours, —— ——.

CLAY CHALK FORMULA WANTED.

Syracuse, N. Y., Dec. 7, 1903.

Dr. Henry Gathmann, Milwaukee, Wis.

Dear Sir: Would you kindly give us a formula for the manufacture of Tailor's Clay Chalk, or inform us where we will be able to obtain same. Also where we could have a piece of clay chalk analyzed. Thanking you in advance for any information you may be able to favor us with, we remain, Yours truly,

F. MARTY & Co.

WHAT KIND OF SOAP DO YOU MAKE?

New York, Dec. 17, 1903.

American Soap Journal, Milwaukee, Wis.

Gentlemen: Can you tell us where we can procure a United States Directory of Soap Manufacturers, one that publishes a classified list, namely: The manufacturers of toilet, laundry, mill and other soaps, under different headings. Your reply will oblige,

Yours truly, A. KLIPSTEIN & Co.

A GOOD-SIZED ORDER.

Editor American Soap Journal.

Dear Sir: We are running a small mail order business and want a practical formula by which we will be able to make a good grade of laundry soap at the least expense, still, not to impair the soap with detrimental ingredients. Will you not kindly write this formula for us, giving materials that you think could be easily obtained here; method of cooking and mixing to be done in open kettles?

The greatest defect in our experiments so far is that the soap has a tendency to shrivel up and has not the

lathering qualities that we deem it should. It is also not as firm as we would have it.

We are not in position to secure and utilize caustic soda. Lime is the only substance easily obtained by us at present out of which we are able to make lye.

The following is a formula that we tried, but as yet it has not materialized: * * * It seems too strong, also it is not hard, as we would expect. We would like to make a soap like the "——" and would be satisfied if we could make only one good grade of laundry soap.

How many pounds pressure is necessary in pressing a bar of this soap? Very respectfully yours,

—— ——.

NEWS FROM FLORIDA.

Jacksonville, Fla., Dec 24, 1903.

Editor American Soap Journal.

Dear Sir: I send you the enclosed clipping from the Florida Times-Union in place of my expected contribution this month, as I consider the former of great interest, inasmuch as the new industry points to the fact that the naval stores industry *must* be preserved, not destroyed.

Mr. Meldrum is well acquainted with your paper, as I have shown him copies in the past and he has now become a subscriber. Cordially yours,

E. MOULIE.

[Enclosure.]

True camphor, equal in all respects to the camphor brought from the Far East, is shortly to be manufactured in Jacksonville upon a large scale by an electrical chemical process, an entirely original one, and one by which camphor was for the first time made on a commercial basis.

The Japanese government practically controls all the camphor forests of the world, the greater part of which are found on the island of Formosa, and is produced by a process of destructive distillation. The trees are felled and cut into lengths of six inches and are placed in retorts. Heat is then applied, and the camphor in the wood is vaporized, and true camphor is the result. This is shipped to Europe and America, to be there refined, and is found in every drug store.

The spirits of turpentine is composed of sixteen atoms of hydrogen and ten atoms of carbon, while the Japanese camphor is composed of sixteen atoms of hydrogen, ten atoms of carbon and one atom of oxygen. Now, the problem to be solved was how to add this one atom of oxygen to the turpentine. By long and laborious study and experiments by a member of this company this was found out, and more than 80 per cent. of the turpentine is converted into camphor, besides several valuable oils which are obtained as by-products. The operation through the various processes takes ten hours, and is purely mechanical, the resultant camphor being, therefore, absolutely pure.

There were about two and a half million pounds of camphor imported into the United States during the last year, of which one-fifth went to the drug trade and four-fifths are used in the arts, principally in the manufacure of celluloid and explosives.

The artificial camphor can be used for all purposes that the real camphor is used for. In the manufacture of celluloid it has the great advantage of rendering the product less inflammable, while in the manufacture of explosives the artificial camphor renders the guncotton soluble at a much lower temperature, thus greatly reducing the risks of manufacture.

A company has been organized and a charter will be applied for at once incorporating the Mellor Manufacturing Company, and the following well-known and successful business men are the sole owners of the company: M. Temple Taylor, president, of Savannah, Ga.; Col. A. H. West, first vice-president; Archibald Meldrum, F. S. C. I., second vice-president and chief chemist: Thos. A. Davis, secretary and treasurer, the three last named gentlemen being citizens of Jacksonville. The entire capital necessary for equipping the manufacturing plant has been raised and is now on deposit to the credit of the company in the banks of this city, and negotiations are under way for a suitable location for the factory. Thos. A. Davis, who has attained considerable success in promoting and financiering corporations in Jacksonville, during the past year, was the active mover in raising the money for the company. One-half of the stock is owned by Mr. Davis and Mr. A. H. West. Mr. West is one of the most substantial and successful business men in this state, and it goes without saying that any enterprise in which he invests his money and gives his attention will be a success, and this is all the more probable since the company is organized on the close corporation plan and no stock is offered for sale at any price. It is estimated that in the course of a year the company will be employing twenty-five to fifty people and turning out a thousand pounds of camphor every twelve hours. The plant will be run day and night, thus doubling the daily capacity. At the present price of camphor the daily output would have a cash value of about $1,100.

Gritty George—"Poor Dusty must have lost his mind."

Sandy Pike—"How so?"

Gritty George—"Why, he read about a man dat slipped through prison bars by smearing himself wid soap an' he says he's going to do de same."

American Soap and the Fiscal Question of England.

The "Scotsman" recently had this to say:

"The British manufacture of soap seems to flourish. Whether a protective duty would help it or not we cannot say, but even to foreign countries it shows no tendency to anæmia. The proof is here:

	1892.	1902.	Movement.
Exports to foreign countries	£209,000	£397,000	+ 90%
Exports to British possessions	£325,000	£729,000	+124%
British imports		£428,850	

"The British manufacturer knows how to make good soap, and he knows how to advertise it. The bulk of the trade is in ordinary household soaps, and America is now making a determined bid for this trade. During the last three years British imports of American soaps have almost doubled in value. Before 1900 the customs returns showed no separate entry for soaps, so we cannot state the increase in imports for the period in our review. But the American invasion threatens the soap trade, and the figures for the next few years will show how the campaign has gone. Soap is a natural product for the Central States of the Union, whose immense stockyards furnish an abundance of material for soap-boilers. French toilet soaps have always been a feature in the British mechant soap trade, but America now sends here ten times as much soap as France does. The marked increase immediately following the inauguration of the preferential tariff in 1898 seems to be a point scored, and its cause seems evident. But the total collapse of the British soap trade these two years, in spite of an increased rebate in duty, is a terrible fall from grace. The situation has developed amazingly. It is as if the position were being won by light artillery when a 'Long Tom' is brought into range, and with a few well-directed shots locates the position and proceeds to demolish the opposing artillery and its foundations. The United States soap trade has been the 'Long Tom,' and these few years its aim has been placed upon foreign markets. The duty upon common soap imported into Canada is one halfpenny per pound, upon Castile soap twice that specific duty, on soap powders 30 per cent. of value, and on other soaps, including toilet soaps, 35 per cent. of value. The rebate to British soaps is one-third of above duties. To the question whether British soap makers would profit by a colonial preference in customs duty, we must reply that it is extremely unlikely. With a 'Long Tom' of such range and power as the United States has proved itself to be, the amount of the colonial preference in our favor would have to be greater than we are ever likely to have granted us, and more generous than we have any business to expect, before it would achieve anything approaching the desired result.

"We now lift the microscope of investigation to the trade in candles, long an important one in this country. The present condition seems healthy:

	1890.	1902.	Movement.
Exports to foreign Countries	£110,000	£191,000	+ 74%
Exports to British possessions	£151,000	£243,000	+ 61%
Imports	£96,853	£17,921	— 81%

"If a few more pictures like this could be held up to view there would be less talk of tariff revision. The Canadian government places a duty of 30 per cent. on paraffin wax candles, and of 25 per cent. upon other sorts. Britain's preference, therefore, comes to 10 per cent. and $8\frac{1}{3}$ per cent. of the value of the candles. Yet, in spite of this, and in spite of the favorable position of the candle trade evidenced above, British candles have not progressed in the Canadian market as one would have expected. The effect of the preference seems to have been good, and did help British candles a little, but the close of the period reveals decline in value and marking time in percentage. On this occasion it is not America or Germany whom we must recognize as gaining on us but Asia. Candles have begun to cross the Pacific from Japan to Vancouver, and the making of candles in Burmah and elsewhere in Asia promises to be an industry of importance in a few years. The same reasons which draw the cotton factory to the cotton field, the blast furnace to the iron mine, are at work. Stearine produced from cocoanut oil and from palm oil has long yielded the best candles, and Asia furnishes the bulk of both. The position of the British candle making industry seems, therefore, to be as follows: The decay of the industry in Belgium and Germany has come from its better organization and more scientific prosecution in Great Britain. Up to the present time British makers have defied all competitors, and the trade is now relatively at top mark. For paraffin wax candles the United States may dispute our title, and the Orient promises battle in stearine candles. Against the former competition, if it be pursued without the unfair weapon of dumping, a colonial preferential tariff would yield good results. Against the latter it would be ineffectual, especially as British Asia would probably come under the favored treatment of any preference granted by British colonies."

In connection with the foregoing, the following from the "Manchester Guardian" is interesting:

"It is noteworthy that the German chemical industry, which is regarded by British Protectionists as a striking example of the benefits of a tariff and the danger of free imports, is used by German Free Traders as an admir-

able illustration of the vicious effects of protection. Up to 1862 the German soda industry, conducted on the Leblanc system, had enjoyed a high protective tariff, but the rapid growth of production, together with the demands of the industries which depended upon soda as a raw material, convinced the Prussian government that the duty might advantageously be reduced. Instead of the evil effects being realized which the soda manufacturers had predicted, the trade extended rapidly, and the newly formed German Empire found itself, in 1870, justified in further reducing the duty on other products of the soda industry. With the rapid development of commerce which followed the close of the war, the soda producers enjoyed such a degree of prosperity that dividends of 40 per cent. were not infrequent, and the German makers were unable to meet the demand. Again, the government stepped in, in the interests of the dependent industries, and reduced the duties on calcined soda from 4 to 1½ marks. But this period of extraordinary expansion was followed by the great crisis which set in in 1877. The soda consumers, who felt the pinch first, began to agitate for the entire removal of the duties on soda and allied products, and the government sympathized with the demand. By making terms, however, with the glass industry, the soda makers, through their combination, brought a formidable agitation to bear upon the authorities in favor of increased duties, and Bismarck's adoption of a protectionist policy facilitated the efforts of the combination. Under the new tariff the duties on caustic soda were slightly advanced, while those on calcined soda were increased from 1½ to 2½ marks. In the hope of large profits capital was diverted into the industry, so that the production of soda mounted from about 45,000 tons in 1879 to 115,000 in 1883. Inevitably prices fell. In Germany the industry, although protected against foreign competition, could not resist the competition of the new ammonia process, and there, as elsewhere, the Leblanc system went under rapidly. By 1886 a crisis in the German soda industry was once more in full course of development. Over-production and fierce competition were everywhere more and more manifest, the foreign import was forced out of the home market, and the surplus stocks were sent abroad in rapidly increasing quantities. The soda manufacturers were at length driven to form a cartel ,or trust, in order to save themselves, and, although the tariff has been invoked especially in the interests of the smaller concerns, the first efforts of the new combination were directed towards the annihilation of this section of the industry. By 1900 the Leblanc process had lost ground to such an extent that it represented only 15 per cent. of the total output, and even this limited industry only held its ground owing to the value of the by-products of the process.

"Meanwhile the fate of the industries dependent upon soda for their existence had not been the most enviable. The tariff which protected the home market from foreign competition enabled the members of the soda trust to control prices against the consumers. While disposing of their soda at home at high prices, they delivered the same product abroad at far lower quotations. What this meant to the German exporters of soap, paper, and so forth, is shown in a memorial which the Soap Manufacturers' Association presented to the Bundesrath, praying for relief:

" 'The German soap manufacture and the other soda-consuming industries have felt it a grievance for a long period that the soda duty, since its establishment in 1879, has remained exactly the same, although the circumstances under which it was fixed have in the meantime substantially altered. Thus, thanks to the progress of chemical technology (the ammonia process instead of the Leblanc process), the cost of production has been reduced about one-fourth. The German soda industry, owing to its present efficiency, can dispense with any tariff protection. The present tariff is of a directly prohibitive character; it forces the price of soda artificially upwards, handicaps the soda-consuming industries in their export trade, and assures only to the soda makers dividends which benefit almost exclusively the foreigner, inasmuch as the larger soda works are either controlled by foreigners or foreigners have the deciding financial interest therein.'

"To these representations the chemical manufacturers replied that since oils and fats formed the greater portion of the material for soap-making, the increased price of soda was a matter of small importance to the industry. In a petition presented by the Duisburg Chamber of Commerce it was insisted that the chief competition with the German soda industry proceeded from England, where, it was alleged—upon what evidence is not clear—wages and other expenses were lower than in Germany. Especially odd it is to find that the Duisburg manufacturers declared that 'the burdens of social legislation do not exist' in England, thus anticipating and turning against us one of Mr. Chamberlain's Tynemouth arguments. Not only so, but the German soda makers even reproached their British competitors with dumping. 'In order to suppress new competitors, England has dumped (*geworfen*) soda on the market at such low prices that it is possible for third parties to buy English soda here and sell it again in England at a profit.' This naturally brought the soap makers once more into the field. They pointed out that the duty on soda had failed in every respect to attain the objects of its promoters. Called into existence to protect the Leblanc process, it had actually assisted to destroy it; it had poured vast sums of money, estimated at £300,000

annually, into the coffers of the ammonia process works, and it had not preserved the smaller producers from being mercilessly destroyed by the combination of large firms. When, moreover, the tariff was created, the duty amounted to from 10 to 20 per cent. of the value of the soda, but owing to the fall in price the proportion had increased to 30 per cent. On the other hand, German soda had been sold to English consumers at very low prices, and British competition was thereby aided. In respect to the number of workmen, amount of wages paid, salaries of officials, machinery, and so forth, the soda-consuming industries far exceeded in importance the soda-producing concerns, yet by the soda duty they were being ousted from the world's markets:

"'By the duty-free import of its raw material England, for example, can send domestic soap to every country of the world. The German soap industry, on the contrary, is burdened with a duty upon nearly the whole of its imported material. As a consequence of the German duties on soda, potash, fats, oils, and so forth, the German soap makers are confined for their market almost entirely to the home consumers, although from a technical standpoint they stand at least upon a level with their colleagues in England. The German soap makers are compelled to work for very small profits. For that reason, the contention of the Duisburg Chamber of Commerce that the influence of the soda duty was not appreciable was unfounded.'

"In view of their statement that the duty upon the caustic soda represented in the manufacture of 100 kilos. of soap represented a cost of 5½d., or 1½ per cent. of the wholesale value of the soap, the German soap makers have an undeniable grievance. Their case illustrates, however, with remarkable clearness the impossibility of adjusting a tariff so that the claims of every section of producers may be satisfied. By the duty upon foreign soda in Germany it has given an enormous bonus to the English soap and paper-making industries at the expense of the German public."

Trade Secrets.

Under the common law as it prevailed in England and in the American colonies, it was a fundamental principle that when an invention or secret was divulged, it passed into the possession of the public. So absolute was the transfer of title, that the general use of the invention could not be restrained; and so broad was the rule, that a patent could not be granted after public knowledge of the secret had been obtained. Common law rules are never abrogated; they are only modified by statute to meet existing necessities. And so our own patent statutes are to be construed, not as abolishing a doctrine brought with them by our forefathers, but as a modern change. Under our latest patent statute the common law rule that general knowledge of a secret or invention inalienably vests the right to that invention or secret in the people, has been so far modified that an inventor is permitted to publish his secret two years before applying for a patent. With the exception of this change, the common law right of the public to an unprotected secret which has come into possession remains unaltered.

Under this still-existing, slightly-modified principle, an invention is the property of its inventor so long as it has not come to the knowledge of others, and so long as it has not been patented. For the purpose of giving an inventor absolute dominion over his secret, and also of permitting the public under certain conditions to enjoy the fruit of the inventor's labor, our government has enacted patent laws, which restrict the common law right of the public and of other inventors to a secret divulged. "An inventor has no right to his invention at common law. He has no right of property in it originally. * * * If to-day you should invent an art, a process, or a machine, you have no right to hold that for seven, ten, fourteen, or any given number of years against one who should invent it to-morrow without any knowledge of your invention, and thus cut me and everybody else off from the right to do to-morrow what you have done to-day. There is no absolute right nor natural right at common law, that I, the original and first inventor to-day, have to prevent you and everybody else from inventing and using to-morrow or next day the same thing." (Holmes quoted by Shipley, J., in 4 Fisher, 284.)

With the position of an invention or secret under the common law and under our statute clearly defined, the next question to consider is what is the right of the public to an invention which has been revealed by fraud?

It cannot be denied that it is not against public policy for an inventor to divulge his secret to another for a consideration, on the condition that the secret shall not be further communicated. In so far as he may thus be able to sell an important invention, an inventor may be said to possess a limited property right in a secret. The validity of such a limited property right would be tested most thoroughly in an action in equity to restrain one from breaking a promise not to reveal a purchased secret. The English courts have discussed the question exhaustively; our own courts have followed in their footsteps. In the case of Bryson vs. Whitehead (1 Sim. and S., 74), it was deemed to be not against public policy to restrain the communication of a secret sold on condition that it should not be revealed. And in Yoratt vs. Winnyard (1 J. and W.) an injunction to restrain a defendant from communicating certain recipes for medicines and vending them was granted on the ground that he obtained a knowledge of the mode of preparing them by a

breach of trust. It is essential that the inventor should have possession of a secret; otherwise an injunction will be denied. Thus, in Williams vs. Williams (3 Mer., 157) an injunction to compel a specific performance of an agreement not to divulge an important secret was dissolved on the defendant's denying the facts of the case, and on the ground that there was no secret. The distinction between public and private rights to a secret has been best drawn in the leading case of Morrison vs. Moat (9 Hare, 241), where it was held that a plaintiff not having the privilege of a patentee may have no title in the exclusive manufacture and sale of a medicine against the world, but he may notwithstanding have a good title against the particular defendant. In James vs. James (41 L. J. C., 351), the court likewise held that any person who, by fair means, has gained knowledge of a trade secret, may, after the death of the original inventor, continue the sale of the article; but he must not represent his as the only genuine article.

What are the rights of third persons in the matter of a secret developed? In the case of Morrison vs. Moat (*supra*) it was held that "a party may be enjoined from using a secret mode of compounding a medicine not protected by a patent, when he has acquired the knowledge by a breach of contract or fraud on the part of his informant."

As between two contractants it would, therefore, appear that publication of a secret can be restrained as the result of an action on the special contract. What should be the rule between employer and employe? If the employe specifically promises not to reveal the secret, it follows from what has already been said that he will be enjoined from breaking his promise. Thus in Peabody vs. Norfolk (98 Mass., 452), the complainant had built a mill and furnished it with machinery invented by him for manufacturing cloth by a secret process. An engineer in his employ, who had contracted not to give information concerning the machinery, but to preserve the process secret, was enjoined from violating his contract. A similar decision was rendered in Thun vs. Tloczynski (114 Mich., 149). Even without a special contract imposing secrecy, an employer can under certain conditions restrain a former employe from communicating a secret imparted to him during his employment; for if the employment is of a confidential nature, the promise not to reveal a secret will be implied (Salomon vs. Hertz, 40 N. J. E., 400; Little vs. Gallus, 4 Ap. Div., 569). But if no contract is either expressed or implied, one who has acquired knowledge of a secret may divulge that secret (Bell and B. Soap Company vs. Pretoria Manufacturing Company, Sup. Ct., 54 N. Y. Supp., 663).

The converse is also true. There is no reason why an employer to whom a secret may have been revealed under a special contract by an employe should not be restrained from breaking his contract if the employe should be discharged from his service. A court of equity will always consider the relations between the two parties and the nature of the agreement which has been drawn up by them or implied. Broadly stated, the rule would probably be that an injunction will be issued to restrain the use of a trade secret which has been acquired fraudulently or by a breach of trust.

South Africa.

In a recent issue, Oils, Colours and Drysalteries gave a summary of the conclusions come to by Mr. Birchenough, the special commissioner appointed by the Board of Trade to inquire into and report upon the present position and future prospects of British trade in South Africa. The following are extracts from the same report of a more detailed nature:

CANDLES.

There is a small local manufacture of candles, but the trade is mainly supplied by importations from Great Britain, Belgium, and the United States. The consumption of candles in the mines is very large. For this purpose, Price's candles are the most popular, but find a strong competitor in the Belgian article. I was repeatedly informed that he Belgian candle is neither better nor cheaper f. o. b. than the British candle, but it can be landed at a lower price in South Africa, owing to the lower freight obtainable from Antwerp. Its use is also said to be due to the preference or prejudice of certain mine managers and engineers in its favor. The American candle, the "Goodwin," is especially manufactured as a mining candle. It is 20 per cent. dearer than the British candle. For some time it was in considerable demand, but of late the importation has fallen off, and it has been replaced by the British article. There is a demand for 14 ounce candles as against 16 ounce, the standard size, and the reason given is that the well-known 16 ounce "London Sperm" burn longer than is required for one shift and involve unnecessary waste.

PERFUMERY.

In perfumery there is considerable competition from France, Germany, and America, although the bulk of the trade is British. The French compete in the best classes with considerable success, the Germans in medium priced goods, and in the very lowest goods for "Kaffir truck" from 10 shillings per gross upwards, and America in what may be called accessories.

OIL.

All such oils as castor, cocoa-nut, colza, fish, train and blubber, linseed, and salad come either from, or by way of Great Britain. Paraffin oil for lamps is entirely American, as might be expected. Engine and machine oil is for the most part American; but the British supply certain qualities with success. On the railways, Rus-

sian raw oil is used for lubricating, and, with the development of the different railway systems, this is becoming a large consumption. Much more oil is used on the South African railways than at home, owing to the steep grades. The Central South African railway alone uses about 200,000 gallons of lubricating oil, about 30,000 gallons each of light and heavy engine oil, and 150,000 gallons of kerosene. It was repeatedly suggested to me that British refiners might obtain a large share of the machine oil trade if they would take the matter up with spirit.

PAINTERS' COLORS AND MATERIALS.

Until five years ago this branch of trade was entirely British, but American manufacturers are now competing very strongly in paints, distemper colors, and in cheap varnishes. I was informed that the best grades of American paints are excellent in quality and go further than similar British paints. They have had the advantage of low freights from the United States, and this has temporarily encouraged their importation.

American distemper colors are widely sold. In varnishes the best qualities are English, the lower American. Qualities as low in price as 4s. 9d. per gallon are imported from America as against English varnish at 10s. 6d.

Turpentine is almost entirely American.

Painters' materials, brushes, etc., are practically all British.

SOAP.

There is a growing local industry, but it has not yet attained much importance, and the bulk of the soap used, common, soft, and toilet is imported. Great Britain controls the trade, and more than 90 per cent. of the imports come from Great Britain. In toilet soaps, France, Germany, and Holland compete to a small extent, especially in the better qualities, just as they do in the home market. It is not a question of price, but of specialities. America shows signs of becoming a more important competitor in all classes. A well-known American firm is making a serious bid for the trade, and has met with some success. Natal and the Transvaal import some soap from Quilimane and Mozambique, but it is not an increasing business, and does not materially interfere with British makers, in spite of the lower railway freights it has hitherto enjoyed as South African produce. Most of the best-known British brands are extensively advertised in South Africa. The trade appears to be well worked by home manufacturers.

The Products of Coal Tar.

In a lecture on the relations between scientific research and chemical industry recently, Professor R. Mendola, F. R. S., dealt with the manufacture of coloring matters and other products of coal tar. In this connection he said: The relations between scientific research and this industry are so intimate, and so frequently referred to in public, that it has become a kind of stock example for the use of those who wish to emphasize the inter-dependence of science and industry. The history of this industry, moreover, is particularly instructive from our present point of view, because it originated in this country in 1858, and flourished here for a period of about twenty years, and then began to decline. The chief center of activity for the production of coal-tar products at the present time is Germany, where there are six large factories and a number of smaller ones. The aggregate capital of the six large factories amounts to some £3,000,000, and they give employment to about 20,000 people including chemists, engineers, clerks and travelers, dyers and draughtsmen, workmen, etc. These large firms pay dividends varying between 5 and 25 per cent. upon their capital. The total value of the tar products manufactured in Germany exceeds £10,000,000 annually, and she supplies by far the largest proportion of the dye-stuffs used throughout the world. When, in 1866, I proclaimed our approaching fate with respect to this industry, I found that we were then using about 90 per cent. of German and other foreign coloring matters in this country and my friend, Professor Arthur Green, of the Yorkshire College, finds that things are in about the same state at the present time. The coal-tar color industry arose, in the first place, from an observation made by Dr. W. H. Perkin in 1856, in the course of a research having for its object the synthesis of quinine. He did not succeed in producing the alkaloid, but he noticed that aniline, when oxidized, gave a coloring matter, which he manufactured and introduced under the name of "mauve," and so laid the foundations of an industry which has developed to its present colossal dimensions. The art of the dyer and calico-printer has been absolutely revolutionized by the introduction of the synthetical coloring matters prepared from coal-tar. Of these, more than 500 are now available—each one a distinct and definite chemical compound with characteristic color; each one with properties rendering it suitable for application to particular classes of fabrics. Every range of color, including the deepest black, can be imparted, and every degree of brilliancy or dullness, of fastness to light, to washing and bleaching agents, etc., can be realized as required. The natural dyestuffs, such as madder, which supplied alizarin for Turkey red; the cochineal insect, which furnished a red dye; the lichens and dyewoods, which were used by the old-time dyers, have been displaced, or are on the way to displacement, by the tar products. The most important of all the natural coloring matters, indigo, is, as you know, among the latest of the achievements of industrial synthetical chemistry, and a great industry worth some £3,000,000 annually to our Indian Empire is

threatened with extermination by the German manufacturers. Not a month passes without the introduction of new coloring matters, and so enterprising are the German color-makers that their pattern books are issued with full directions in various languages, and trained chemists in their service will give personal instructions to our dyers in the application of new and unfamiliar coloring matters. It is impossible to do more than allude, in passing, to the enormous influence of this greatest and most refined of all the chemical industries upon every other department of chemical manufacture. It has reacted, and is reacting, with ever-multiplying ramifications upon the manufacture of the raw materials, such as acids and alkalies, it is revolutionizing the methods for producing sulphuric acid, it is pressing into its service electrolytic processes, and it has created new branches of engineering for the construction of special plant and machinery. The utilization of the infinity of compounds present in the tar is no longer restricted to the production of coloring matters. Valuable medicinal preparations photographic materials, perfumes, antiseptics, the sweet-tasting saccharin, which is 300 times sweeter than sugar, an artificial musk which exceeds in intensity of odor any natural musk, are among the manufactured products from coal tar. The industry is the direct outcome of scientific research; it has been developed by research, and is being still developed by research. Both methods referred to in this address have been and are at work. The by-results of pure scientific investigation are seized upon whenever they show the slighest chance of being industrially useful. Saccharin is such a by-result. The chemical reactions which culminated in the industrial production of indigo were published by their discoverer, the late Dr. Heumann, as an academic discovery in the first place, and were developed industrially by the Badische Anilin und Soda Fabrik, of Ludwigshafen. By the other method, whole armies of highly trained scientific chemists are constantly at work in the splendidly equipped research laboratories of the German factories investigating new products and processes with the direct object of their ultimate industrial application. Nor must it be forgotten that under the term "research" used in this connection is comprised also theoretical research. A close study of the history of this industry will show how thoroughly it has been vitalized by theoretical conceptions concerning the chemical structure of the molecules of organic compounds, and especially by the so-called benzene-ring theory of Kekulé, now so familiar to chemical students. The force of illustration of the connection between science and industry can, perhaps, go no further than in this case, where a purely abstract conception, based on a knowledge of the properties of the atom of carbon, has reacted upon a branch of manufacture to its lasting benefit.

The Analysis of Soap.

By S. Culbertson, Denver, Col., in National Laundry Journal.

(*Continued.*)

SIXTH—EXAMINATION OF THE FATTY MATTER.

This subject embodies more difficulties than any other that presents itself to the analyst in the examination of soaps. Fats are in themselves complex, mechanical mixtures of different fatty acids, combined with glycerol, which vary in different substances and which vary even in different samples of the same substance. For instance, tallow from different parts of the same beef. Determinations are made chiefly by the physical characteristics of the fatty matter resulting from the decomposition of the soap by sulphuric acid. In cases where resin exists in the sample the determination of the proportion of resin is accurate and comparatively easy, but this will be discussed under another heading.

The points to be observed are the solidifying and melting points from which some idea can be gathered as to the nature of the fat (if it be not a mixture of two or more fats). The specific gravity test is subject to the same objection as the last and the saponification equivalent is also open to the same objection. Were the resultant cake pure tallow we might recognize it by these tests with a very great degree of accuracy; but were it a mixture of an unknown quantity of, say, tallow and cottonseed oil, we could tell with some degree of certainty that it was a mixture, but of what or in what proportions, we might not be able to form any opinion whatever, or nothing more than an opinion at the very furthest. Here is a field for the soap maker to take advantage of, and he does it in some cases.

Should the resultant fatty layer solidify at ordinary temperature it is safe to say that it is tallow, in part at least. Examine the melting point and solidifying point; if it is in the former case from 96 to 120 degrees F, and in the latter from 92 to 118 degrees the sample may be wholly tallow. If the solidifying point runs below 92 degrees it is certain to contain an admixture of some fatty matter other than tallow. In case the oily layer does not solidify at all the soap may be presumed to have been made from some oil, such as olive oil, or cottonseed oil, or cocoanut oil. Examine the specific gravity with an accurate hydrometer and with the fat at exactly 210 to 212 degrees F, maintained so by a water bath, the specific gravity of tallow would be from .856 to .859; the specific gravity of cottonseed oil would be from .867 to .873, and of cocoanut oil .868 to .874. Now if the melting point indicates tallow and the specific gravity is between .856 and .85 9,we may pronounce with reasonable certainty that the sample is pure tallow. But with a good grade of tallow, mixed, for instance, with one-third of cottonseed oil, the oily layer might still solidify at ordinary temperatures, the abnor-

mal specific gravity would indicate the mixture; though from this test the observer could not decide as to the nature of the oil, nor could the proportion of either be stated. One could say only that the sample was not all tallow.

ASCERTAIN THE SAPONIFICATION EQUIVALENT.

That of tallow is from 283 to 290; having found that the melting and solidifying points and the specific gravity indicate tallow and that the saponification equivalent is from 283 to 290, we are further certain that we have pure tallow. If the examination for the specific gravity indicated a fatty substance of higher specific gravity than tallow, we might be certain it contained cottonseed oil from the fact that the saponification equivalent of cottonseed oil and tallow is about the same. The same conditions prevailing as to temperatures of melting and solidifying and specific gravity as those just cited and a greatly reduced saponification equivalent would indicate cocoanut oil, the saponification equivalent of which is 209 to 228. Here we cannot know the proportion of the mixture.

The melting and solidifying points are found by the following method: Take a small glass tube and introducing one end into the molten fat, draw upon the other until the fat has arisen fairly well into the tube, allow this to cool thoroughly at least an hour, and when cool attach to the bulb of a thermometer by rubber bands, top and bottom; now immerce both in a beaker of water under which gradual heat is applied. The fat in the tube when cold was opaque and when the melting point is reached a change to the clear color will be observed. Read the thermometer carefully and then place the beaker in cold water and note the point at which the fat solidifies again. During this process stir the water in the beaker constantly in order that the temperature may be more even.

TO DETERMINE THE SAPONIFICATION EQUIVALENT.

The saponification equivalent, to put it shortly, is, when applied to such fatty matters as usually enter into soap making, one-third the molecular weight. It is formed as follows:

Weigh two and one-half grammes of the fatty matter and place it in a wide-mouthed flask: add 25 c.c. of a semi-normal solution of sodium hydroxide in alcohol. Heat over a water bath and agitate for half an hour, or until the saponification is complete, add a few drops of alcoholic solution of phenolphthalein. When cool the solution is then titrated back with an equeous semi-normal solution of hydrochlorine acid, stirring constantly. Subtract the number of c.c. of acid used from the 25 c.c. of sodium hydroxide used upon the fatty matter. The number of milligrams of fatty matter divided by one-half the number of c.c. of semi-normal sodium hydroxide employed to saponify the same gives the saponification equivalent.

In addition to the foregoing methods of determination, the following chemical reactions may be noted:

Soaps made from crude cottonseed oil are oxidized on exposure to air, with accompanying discoloration. They also have a disagreeable odor. Makers usually color and perfume such soap. Dissolve one gram of finely powdered nitrate of silver in 100 c.c. of 95 per cent. alcohol; add 20 c.c. of ether and one drop of nitric acid. To 10 c.c. of the oil to be examined add 2c.c. of the reagent and heat in a bath of boiling water for ten minutes. Any blackening indicates cottonseed oil, and by comparison with the color of known samples treated similarly an idea may be had of the proportion of the mixture.

Cocoanut and palmnut oil may not practically be considered as adulterants. A soap made from them or from a mixture of either of them with tallow will be readily recognized by its power to float upon water. It is used chiefly because its soap possesses the remarkable property of carrying great quantities of water and yet retaining a firm body. The laundryman does not come into contact with it to any extent.

SEVEN—DETERMINATION OF ROSIN.

The chief adulterant of the fatty matter of laundry soaps is rosin, and there has been considerable discussion as to the bad and good effect of the addition of rosin to a soap. The laundryman may put aside all discussion and base his judgment upon the fact that when he pays a tallow price for a rosin soap he is not getting his money's worth.

Among the various tests for the presence of rosin in soap I have found Gladding's the most satisfactory on the score of accuracy of results and ease of manipulation. The resinate of silver is soluble in ether, but the oleate, stearate and palminate of silver are nearly insoluble. From this fact the following process is possible:

Dissolve, by the aid of a water bath, two grammes of the original soap (drying it after weighing) in as small an amount of absolute alcohol as will dissolve it. (I have found it quicker to use a larger amount of alcohol than necessary and evaporate off a portion of it after the solution is perfected.) Use a wide-necked flask instead of a beaker for this purpose, so that the solution may be facilitated by shaking. After the solution is made allow it to cool somewhat, then add an amount of ether, a little more than equal to the amount of alcohol remaining. The object of keeping these amounts of alcohol and ether down in quantity is two-fold. First, the process is more economical of time and material; second, the oleate and other fatty acids of silver are not *entirely* insoluble and the greater quantity of the menstruum the greater quantity of these salts will be dissolved, when resinates are absent. Having added the

ether to the alcoholic solution, cork and shake well, removing the cork at intervals for an instant to allow the pressure of ethereal vapor to escape. Before beginning the process, weigh out about 2 grammes of chemically pure nitrate of silver, put in a mortar and bring to a fine powder, setting it aside to be ready for this stage of the operation. Having shaken up the mixture of soap, alcohol and ether, as directed, add the powdered nitrate of silver and shake well for five minutes. The fatty acids combine with the silver and are thrown down; the rosin acids, if any are present, combine with the silver and form resinate of silver, which remains in solution. Allow to stand for two hours; shake it once more and then allow it to settle; filter into a globe-shaped separatory funnel, washing the residium in the flask with a little ether a couple of times and pouring the washings into the filter.

Into the separatory funnel pour diluted sulphuric acid; sulphate of silver will be seen to separate in greater or less quantity. Having added the sulphuric acid, then add a small quantity of rigolene, or petroleic ether: shake well removing the cork from time to time. When the watery layer is entirely separated from the ethereal draw off the former, and add more dilute sulphuric acid to dissolve the small bits of silver sulphate that may be remaining on the sides of the vessel; shake well, then allow the layers to separate; afterward draw off the watery layer. Pour the remaining fluid through the top of the funnel, so as to escape the water clinging to the bottom tube of the funnel, into a tared beaker and evaporate over hot water, keeping away from all flame, until toward the close of the operation, when flame may be applied to the water bath with less danger. Weigh the beaker with its contents when the ether and rigolene have all evaporated, subtract the tare of the beaker and multiply the result by 50 to obtain the percentage of rosin.

If the residuum in the beaker is small in quantity, and has the appearance of tallow it is certain no rosin is present, the tallow being present by reason of the slight solubility of the fatty acids of silver in ether. Had there been present resinates of silver, then the fatty acids of silver would not have dissolved at all; so, when rosin, by its physical appearance, is shown to be present at all, no correction is necessary for fatty acids, as they will have been thrown down. When process No. 3 has shown free fat to be present in the soap this would have been carried through the present process and weighed as rosin, since the fat, uncombined with caustic, would not have combined with the nitrate of silver. To correct such a case, add a small quantity of an alcoholic solution of caustice soda to the alcoholic solution of soap before adding the ether. Boil gently for a time, when any free fat will be reduced to soap.

EIGHTH—ESTIMATION OF THE ALKALI.

In the process of separation of the fatty acids it will be remembered that the operator was instructed to use 30 c.c. of normal sulphuric acid and also to save the resultant liquid. Titrate now this liquid with normal sodium hydroxide solution. The difference between the number of cubic centimeters of sulphuric acid used and the number of c.c. of sodium hydroxide, represents the number used up by the total alkali in the soap. This result multiplied by .031 and then by 20 will give the percentage of total alkali, combined and uncombined. Now this alkali (not caustic soda, but Na^2O, the radical of caustic soda and carbonated and silicate of soda) may be in combination with fatty acids as soap; it may be in combination with water as caustic soda in a free state; it may be in combination with carbonic acid gas as carbonate of soda. It is now the problem of the analyst to determine in what proportions these different compounds exist.

A. Operate upon five grams of the original soap exactly as in process No. 5, with the exception that dilute nitric acid must be used instead of sulphuric. The amount of acid need not be exact nor the solution normal. Add sufficient, as near as may be guessed, to accomplish the breaking up of the soap. Filter the liquid and washings, and having measured the amount of the same divide it into two equal amounts. To the one add nitrate of silver in solution. If the liquid remains clear there is no salt present, which is seldom the case; if it clouds add silver solution until no further precipitation occurs. Filter on a tared filter; wash; dry filter and weigh. From the weight subtract the tare of the filter, thereby obtaining the weight of the silver chloride. Then the molecular weight of silver chloride is to that of sodium chloride as the weight of silver chloride found is to the weight of sodium chloride required to be known. Or 143.1:58:: wgt. of silver chloride, which, multiplied by 40, will give the percentage. It will not be necessary to make any deduction of the sodium existing as salt from the total amount of sodium oxide found (Na^2O) above for the salt was not included in that weight. The same will be true of the sodium sulphate in process "B" below.

B. To the other half of the filtrate add a solution of barium chloride. The solution remains clear, there are no sulphates present. If it clouds or a precipitate forms, filter on a tared filter; the result is the weight of barium sulphate. The molecular weight of barium sulphate is to that of sodium sulphate as the weight of barium sulphate found is to the weight of sulphate desired to be known. Or 232.9: 142:: weight of barium sulphate found is to the weight of sodium sulphate required. The sulphates may consist of lime in very rare instances. There are very seldom any sulphates present in weigh-

able quantities in soaps made by the "salting out" process, but in cold process soaps they may be present from impure caustic used in the manufacture. If they show in large quantities arising from the addition of Glauber's' salts as an adulterant, further examination will be necessary to verify if the product be of lime or soda; but the laundryman encounters very little of such soap now. Glauber's salts, when used, are for the purpose of holding water and giving firmness to a very wet soap.

C. The usual method of determining the proportion of free alkali and the nature of the same as to what it is combined with, is, briefly, to titrate the solutions with normal solution of acid, using phenolphthalein as an indicator and afterward ascertaining the amount of carbonate existing in the residuum obtained by dissolving soap in alcohol. The alkali (Na^2O) in the carbonate subtracted from the total alkali gives the amount of free sodium hydroxide. But this process is open to some difficulties of manipulation and I use in my own work a process based upon the solubility of hydroxide and carbonate of sodium in salt water and the insolubility of soap and silicate of sodium in the same menstrum. In the beaker mentioned in process No. 5 I dissolve 20 grammes of the original soap in as little water as will dissolve it and add chemically pure salt until the soap separates from the water and arises to the top, when boiling ceases. If the water is of a brownish hue, rosin may be present, in which case make the brine very heavy. Draw off the water through the stop-cock; dissolve the soap again, salting out as before, adding the water to the other. Any silicate of soda will have been drawn off with the water and will be removed by filtering. Do not wash filter with water as usual, but with strong brine. Divide the filtrate into two equal portions, each one thereby representing 10 grammes of soap. Titrate one very carefully with a normal solution of hydrochloric acid, or better, with a deci-normal solution, using litmus or any other suitable indicator and boiling to dispel the carbonic acid gas that may form. Note the number of cubic centimeters used (divide them by 10 if deci-normal solution were used). To the other half of the solution add barium chloride; this combines with the carbonate of soda, forming insoluble barium carbonate and salt and leaving the sodium hydroxide. Filter and titrate with normal (or deci-normal) solution of hydrochloric acid; boiling in this case may be dispensed with. Now, say 4.5 c.c. of normal solution were used in the first operation and 2.5 c.c. in the second, the difference, or 2 c.c., would represent the amount of solution used upon the carbonate, which, multiplied by .053 and then by 10, would equal the amount of carbonate in 100 grammes, or the percentage. The 2.5 c.c. consumed in the second operation indicates the amount of solution used upon sodium hydroxide which, multiplied by .040 and then by 10, equals the amount of sodium hydroxide in 100 grammes, or the percentage.

D. To determine the amount of silicate of soda present, it is usual to reduce a known quantity of the soap with hydrochloric acid, calcine the residue after evaporation, wash out the soluble remainder, leaving silicic anhydride, the weight of which is determined. I follow another plan which I think very convenient and equally accurate.

Dissolve 5 grammes of the original soap in water, reduce with dilute hydrochloric acid in the beaker mentioned in process No. 5, washing the fats as therein recommended. When cool add litmus and then ammonia until the solution shows alkali reaction; then filter and to the filtrate add a slight amount of ammonia. Now add a solution of calcium sulphate, and if the filtrate remains clear no silicate of soda has been present; if it clouds and shows a bulky gelatinous precipitate, add the calcium sulphate solution until no further precipitation takes place after agitation. Filter on a tared filter; dry and weigh, subtracting the tare of the filter, and the result is the weight of calcium silicate. Then the molecular weight of the calcium silicate is to the molecular weight of the sodium silicate as the weight of calcium silicate found is to the weight of sodium silicate required to be known, or 116:122: weight of calcium silicate found is to the weight of sodium silicate required. Multiply this result by 20 to obtain the percentage, 5 grammes of soap having been operated on instead of 100 grammes.

E. Having now determined the amount of soda ($Na^2O.$) in combination with carbonic acid as sodium carbonate, with water as sodium hydroxide and with silicic anhydride as silicate of soda, we proceed to determine by difference the amount in combination with fatty matters.

By the first step in the present process, we find the total amount of soda ($Na^2O.$) present. If we subtract from this the sum of the amounts we find in the carbonate, the hydroxide, and the silicate, it is seen that the result will be the amount that was in combination with fatty matter as soap. But instead of subtracting the total weight of carbonate, silicate and hydroxide, it is obvious that only the soda part of those compounds is to be subtracted. To find them, refer back to subprocess C of this present process. Multiply the total number of c.c. of normal hydrochloric acid used upon the first half of the salted out solution by .031 and we have the weight of soda ($Na^2O.$) in the free carbonate and free hydroxide. Multitply by 10 to find the percentage. To find that of the silicate, use the proportion; as 122, the molecular weight of sodium silicate is to 62, the molecular weight of soda, so the weight of sodium silicate found by sub-process D, is to the weight of soda

required. If the percentage of sodium silicate was taken the answer will be the percentage of soda in the sodium silicate without further multiplication. Now add together the percentage of soda found in the carbonate and hydroxide and the percentage found in the silicate, and subtract from the total alkali, and we have the amount of alkali in combination with the fatty matter. If it be desired to estimate directly instead of by difference how much soda was in combination with the fatty matter, under that part of process No. 6, for the determination of the saponification equivalent, will be found a method; for, it is evident that the amount of soda that goes back into combination with the fatty matter by the said saponification equivalent determination will equal the amount that was combined with it originally. Having operated upon 2½ grammes, and having used semi-normal sodium hydroxide solution, multiply the net number of c.c. of semi-normal solution used by 2, then by .031, then by 40, to obtain the percentage of soda in combination with the fatty matter.

(Note—Sub-processes A and B under this heading No. 8 are introduced there as a convenient place. It will be noticed that they do not enter into consideration as alkali.)

This article has been based upon the presumption that the soap under consideration is a soda soap. The processes would not be much changed were the soap a potash soap, except as to the salting out process and a few minor details, which would not be applicable to a potash soap. The formulae given herein for calculating weights and percentages are for soda soap, however, and would not be correct for potash. The laundryman comes but little into contact with potash soaps, which, when sold as a commercial proposition, are always soft soaps. If the examination to be made is that of a "soft" soap, and there is doubt as to whether it is a soda soap or a potash soap, I give here the best test for the potash:

Calcine in an iron ladle, 10 grammes of the soap. Dissolve the residue in as little water as possible, and if there be any particles of carbon remaining in the solution, filter it. It will not be necessary to wash the filter, as this test is merely qualitative. If care has been taken to use very little water, the solution need not be evaporated, otherwise evaporate sufficient of the water to have what is judged to be a concentrated solution. Add hydrochloric acid until a piece of blue litmus paper shows acid reaction. Then add a few drops in excess. If hydrochloro-platinic acid be now added a yellow, chrystalline, heavy precipitate will immediately separate in a concentrated solution of a potassium salt. After a considerable time in dilute solutions, and in very dilute solutions, not at all.

A soft soap sold as a potash soap might have just sufficient potash to show the above reaction and the balance of the alkali, soda. Dip a wire, preferably of platinum, into the above solution and hold in the flame of an alcohol lamp or a gasoline burner. A yellow coloration of the flame shows sodium. If soda is present at all in a soap sold as a potash soap, the analyst is pretty safe in considering the alkali all as soda. Small quantities of iron may exist in soaps, also of coloring matters and perfumes, but these exist in such small weights as to make their determination unnecessary to the laundryman. The result sof the analysis should be set down in tabulated form, as follows:

Water	%	
Matter insoluble in water	%	
Unsaponified fatty matter (if any)	%	
Glycerol (if any)	%	
Fatty matter combined x.97	%	
If rosin is present give the fatty matter above minus percentage of rosin, then give:		
Rosin	%	
Salt	%	
Sulphates	%	
Carbonate of soda	%	
Caustic soda in free state	%	
Soda combined with fats	%	
Silicate of soda	%	

The writer has endeavored to give a scheme of analysis that may be said to be fairly thorough, more so than the laundryman will need to pursue at all times. In taking up with a new soap, it would be well for him to examine it thoroughly, but in simply examining one that has been used for some time, it is scarcely necessary to look further than to ascertain if there has been any general change of quality. An exception to this rule should be practiced at any time when there is any violent fluctuation in the market price of tallow. At all ordinary times it will be sufficient if the laundryman follows out processes No. 1, 5 and the first part of 8, and also the last part of 8, if he knows silicate of soda to be present; thereby he will find the amount of water, which varies greatly in different lots, even from the same maker; the amount of fatty matter, which, being pure, is the real standard of value of laundry soap; and the amount of alkali. The sum of these determinations will not, of course, equal one hundred, but there is no attempt at finding the full composition of the soap, but only the amounts of what may be called "active principal." By dividing the percentage of fatty matter by 10, one will find *very* roughly the amount of alkali in combination with fatty matter. All alkali over this amount will be in excess and is an adulterant, so far as the dollar and cents value of the soap is concerned. Any excess alkali that may need to be present, the laundryman knows how to add without buying it from his soapmaker at the price of soap.

"Chemistry of Perfumes."

EAU DE COLOGNE.

(First quality.)

Montpelier alcohol	1 litre.
Essence of Neroli	3.200 gr.
Essence of rosemary	2 gr.
Essence of orange peel	5.100 gr.
Essence of lemon peel	5.200 gr.
Bergamot essence	2 gr.

Mix, shake, and then allow to settle for some time before placing it into bottles. If a perfect eau de cologne be required, the orange, lemon, and bergamot essences are first mixed with the alcohol, the rosemary and Neroli essences being added afterwards. This *modus operandi* is that practiced by the most reputed cologne house.

EAU DE BOTOT.

Green aniseed	32 gr.
Cinnamon	8 gr.
Clove	0.500 gr.
Spanish camomile	2 gr.
Cochineal	2.500 gr.
"Tear" myrrh	1 gr.
Cream of tartar	2.500 gr.
Alcohol at 80°	1000 gr.

The whole is ground and crushed, and then macerated for eight or ten days in alcohol; it is afterwards filtered and 2 gr. of essence of menthol added. This tincture poured into water makes it slightly milky.

ANTISEPTIC TOOTH WASH.

Phenol	10 gr.
Salol	5 gr.
Thymol	1 gr.
Essence of menthol	4 gr.
Tincture of aniseed	250 gr.
Cochineal	To color.

HAIR LOTION.

(Recommended by Dr. Locock.)

Liquid ammonia	3.5 gr.
Essence of bitter almonds	3.5 gr.
Spirit of rosemary	28.3 gr.
Essence of mace	1 gr.
Rose water	73 gr.

The ammonia and essence of bitter almonds are mixed together, and then, separately, the essence of mace to the rosemary; the two mixtures are then mixed together and well shaken, after which the rose water is introduced. The lotion is very stimulating, for it assists the growth of the hair and arrests its coming out. It need be used only once a day—at the time of preparing one's toilet.

VIOLET POWDER.

Wheaten starch	600 gr.
Ground iris root	100 gr.
Ground black currant flowers	10 gr.
Ground clove buds	1 gr.

HELIOTROPE SACHET.

Heliotropine	20 gr.
Powdered iris	1000 gr.
Powdered rose leaves	500 gr.
Tonka beans	250 gr.
Vanilla husks	125 gr.
Grain musk	10 gr.
Essence of almonds	5 drops.

Mix well, and sift in a large sieve.

ANTISEPTIC TOOTH POWDER.

Bicarbonate of soda	10 gr.
Calcined magnesia	25 gr.
Washed chalk	25 gr.
Salol	6 gr.
Thymol	1 gr.
Menthol essence	15 drops.

A little carmine may be added to color it if desired.

BULLY VINEGAR. (True Formula.)

Water	7000 gr.
Alcohol at 85°	3500 gr.
Bergamot essence	3 gr.
Lemon essence	3 gr.
Portugese essence	1.2 gr.
Rosemary essence	2.5 gr.
Lavender essence	0.4 gr.
Neroli	0.4 gr.
Balm-mint alcohol	50 gr.

Mix, shake, and after twenty-four hours add:

Tincture of benzoin	6 gr.
Tincture of tolu	6 gr.
Tincture of storax	6 gr.
Tincture of clove	6 gr.

Shake again, and add:

Distilled vinegar	200 gr.

Allow to stand for twelve hours, and add:

Radicle vinegar	9 gr.

SERAGLIO PASTILLES.

Bakers' charcoal	100 gr.
Benzoin	37.5 gr.
Tolu	12.5 gr.
Vanilline	12.5 gr.
Clove buds	12.5 gr.
Sandal essence	0.35 gr.
Neroli essence	0.35 gr.
Nitre	4.25 gr.

The whole is mixed and passed through a sieve, and then a very small quantity of gum tragacanth mucilage is added to it.

In the event of the aroma of the benzoin being objected to, the following formula (which gives a finer perfume) should be substituted:

Willow charcoal	500 gr.
Vanilline	70 gr.
Essence of thyme	0.88 gr.
Essence of caraway	0.88 gr.
Essence of rose	0.88 gr.
Essence of lavender	0.88 gr.
Essence of clove	0.88 gr.
Essence of saldalwood	0.88 gr.
Ambergris	1.77 gr.
Chive	0.44 gr.

Twenty grammes of nitre are dissolved in 25 centilitres of rose water (distilled or ordinary). The charcoal is wetted with this solution, and allowed to dry in a warm place. When the charcoal is dry, the essences are poured onto it, after which it is put into the sieve and agglomerated with tragacanth mucilage.—Chimie des Parfumes, translated by Oils, Colours and Drysalteries.

Bill Johnson's Dog.

Bill Johnson had a yellow cur;
This yellow cur had fleas.
They nestled in his saffron fur
As cosey as you please.

The canine's cognomen was Jim,
The insects' name was legion;
Their favorite resting place on him
Was in the lumbar region.

The fleas they stuck to his here dog;
The dog stuck to his master
As close as bark upon a log,
Or as a porous plaster.

Things got so bad at last that Bill
Brought home some poison stuff
The druggist said 'twould kill the fleas,
If they but took enough.

The fleas they ate that poison up
And died in great distress.
Alas! when they were gone the pup
Died, too, of lonesomeness.

So now Bill Johnson has no cur,
The cur he has no fleas.
The moral is, as you'll infer,
That dogs are hard to please.

—Judge.

Omaha Needs Glycerine.

The customs lists show that one-eighth of the crude glycerine which comes to this country goes to Omaha. There is but one large refinery for this product there. That is in the plant of the Cudahy Packing Company. This company is a large manufacturer of glycerine soap. The inference is that the imported product is used in soap making and that it is cheaper to buy the foreign crude stock and refine it here than to make and refine American glycerine. It may also mean that there is not enough glycerine made in this country to satisfy the trade demands for it. Only 10 per cent. goes to druggists.—National Provisioner.

The Demon Laundry.

DEMON KING.

Why? don't you know that devils have more scope
Since the dark days when clothes were washed with soap;
For people then had tempers calm and placid,
Now all the washing's done with nitric acid,
And fumes arise that grip men by the thorax;
We've long since done away with soap and borax.
Some secrets, if you'll listen, I'll divulge,
And then I think you'll own I've got the bulge.
Instead of boiling garments, now we fry them;
We don't care if the weather's wet or fine,
We never hang our clothes out on a line;
For sunlight with my patent isn't in it,
My "Hot Blast Air Tube" dries them in one minute.
If mortals do not like these ways, they lump it;
For when a washing claim's pegged out we jump it.

FAIRY QUEEN.

I see no earthly power can help these mortals,
Once they have placed their clothes within your portals.
But lo! my power is great—Hence, wicked men;
Days of ye ancient washtub, come again.

—Idler.

Oil From Dog Fish.

A correspondent of the Pharmaceutical Era says:

Nova Scotia, November, 1903.

To the Editor: The old saying that what is one man's loss is another's gain is being exemplified along the Nova Scotia coast just now. For years past the fishermen have been harassed beyond endurance by the schools of dog-fish which destroy their nets and trawls, and devour the fish caught on their lines. Utterly useless as a food fish they were formerly thrown overboard as soon as they were killed, a few livers were saved, and the oil tried out of them was sold as "fish oil" for 25 or 30 cents a gallon. Purchasers were scarce, even at that price.

The failure of the Lofoten fisheries has raised the dog-fish, from a most execrated pest, to a rather sought after fish.

The livers have been in steady demand for some time, and while the average price paid for raw livers has been 50 cents a bucket, it has gone as high as a dollar and a quarter per bucket, at the last of the season. The oil obtained from the dog-fish is not as objectionable as one might suppose. Of a pale straw color, with little odor, it is practically indistinguishable from cod liver oil, when well made. As a general rule, however, the fishermen who prepare it are not remarkable for the cleanliness of their surroundings, and in addition to this they take little or no pains to remove the stearin from the crude oil.

Several of the larger fish firms have put in small plants for the treatment of livers, and refining of oil. These houses have a commercial reputation to sustain, and therefore they refrain from shipping this product under any but its true designation of "fish oil." We can only surmise what becomes of it when it leaves the Atlantic seaboard, and reaches Upper Canada, and the United States.

After the removal of the livers, the dog-fish carcasses are sold to the farmers for compost, or spread on the land owned by the fishermen. When made into a carefully prepared compost heap, with an equal weight of peaty mud from the swamps, they furnish a most valuable fertilizer. Strewn broadcast on the field, they not only pollute the atmosphere with an intolerable stench, and the brooks and watercourses with the result of their decomposition, but the greater part of their efficiency is lost by evaporation, and a large part of the carcasses themselves, is carried away by the crows, ravens, and seagulls.

The export of "fish oil" will probably exceed that of last year by some thousands of barrels. In addition to this a few barrels of genuine codliver oil of high grade have been turned out by each of the larger firms of fish dealers. This has found a ready market in the New England states, and in Ontario.

PATENTS AND TRADE-MARKS.

The following list of recent Patents and Trade-Marks is reported by W. G. HENDERSON, Solicitor of American and Foreign Patents and Trade-Marks, Norris Bldg,, Washington, D. C. A copy of any of the following will be furnished by him for 15 cents.

PATENTS.

744,150. Soap-frame. Henry D. Winton, Wellesley Hills, assignor to Hersey Manufacturing Co., South Boston, Mass.

746,484. Apparatus for manufacturing soap. Alfred Flagendorf, Pittsburg, Pa.

TRADE-MARKS.

41,480. Washing-Powders. John D. Green, Chillicothe, Mo. The words "No Labor."

41,512. Candles. De Roubaix, Oedenkoven & Co., Borgerhout, Belgium. The registrant's signature, "De Roubaix, Oedenkoven & Co.," written across a marine and landscape scene, on the opposite sides of which are represented a king and queen in a seated position, the king holding in his hand a vase of flowers, the queen having at her side a shield. Around the landscape and the seated persons is a mass of scroll work, and the whole representation is bordered.

41,571. Bluing. Mary C. O'Neill, Saugus, Mass. The word "Princess."

41,630. Perfumery and Flavoring Products. Haarmann-de-Laire-Schaefer Co., Maywood, N. J. The word "Vanillodine."

41,631. Perfumery. Haarmann-de Laire-Schaefer Co., Maywood, N. J. The word "Iraldeine."

41,633. Toilet Soap. Medical Lake Salt Mfg Co., Spokane, Wash.

LABELS.

10,526. Title: "Turpentine Soap." (For soap.) Our Soap Co., Buffalo, N. Y.

10,565. Title: "True Blue Bluing." (For Bluing.) True Blue Mfg. Co., Boston, Mass.

REREGISTRATIONS.

10,566. Title: "Sawyer's Crystal Blue." (For Washing Blue.) The Sawyer Crystal Blue Co., Boston, Mass.

10,567. Title "Sawyer's Crystal Blue." (For Washing Blue.) The Sawyer Crystal Blue Co., Boston, Mass.

AROUND THE SOAP FACTORIES.

News-items sent us by our readers will find prompt attention in this column

Articles of incorporation have been filed for the East St. Louis (Ill.) Rendering Co., with $12,000 capital.

The Sanitary Soap Dispensing Company has been ordered to show cause why it should not be adjudicated bankrupt The proceedings were brought in the United States District Court by the creditors of the concern.

A petition in bankruptcy was filed against the Oil Seeds Pressing Co., of New York City, and J. F. McNaboe was appointed receiver. Liabilities are over $120,000. The chief creditors are: The Phoenix National Bank, $5,000 secured and $9,821 contingent;

National Bank of Commerce, $11,500 secured and $2,349 contingent; Leather Manufacturers' National Bank, $17,200 secured and $8,861 contingent; National Bank of North Ameriea, $5,812 contingent; Market & Fulton National Bank, $4,528 contingent; Colonial Trust Co., $7,898 contingent; Francis H. Pierson, $17,018; Elbert & Gardner, $8,287; Charles B. Taintor & Co., $3,404; West Indies Trading Co., $7,459; American Cotton Oil Co., $4,312; Garret & Co., of Malaga, Spain, $7,240; J. Michelson & Combranale, Lisbon, Portugal, $5,911; Charles Malenchin, Leghorn, Italy, $3,664; Produce Brokers' Company, London, $5,879; E. Tarrago & Lafon, Marseilles, $3,253, and Volkart Bros., Winterthur, Switzerland, $8,712.

Incorporated: Houston Soap Works of Houston. Capital stock, $4,000. Purpose, the manufacture of all grades of soap. Incorporators, Henry Kriechhamer, T. F. Martin and H. H. Franks.

The factory of the Standard Soap Co., Sandy Hill, N. Y., has been destroyed by the explosion of a gasolene container and the resulting fire. Loss, $3,000. The factory had been in operation for twelve years.

R. R. Slater, an employe in Swift & Co.'s works at Fort Worth, Texas, was instantly killed by the explosion of a glycerine tank on Nov. 28.

A. d'Estampes writes us from Cuba that he is now making four hundred boxes (100 pounds) of soap weekly, and sends us numerous testimonials from laundrymen in Habana and elsewhere, to the effect that his "Jabon Herradura" (Horseshoe Soap) is not only altogether perfect, but actually preferred by them to the celebrated "Rocamora" brand, which heretofore has been the unchallenged champion among soaps throughout the West Indies and South American republics.

After arriving a stranger in Cuba only four months ago, such a report is one we can only congratulate Mr. d'Estampes upon.

The new 50 by 75 feet brick structure built in Wilkesbarre, Pa., for the Union Soap Works, is ready for work now.

The new candle factory of C. E. Flohr in Carlisle, Pa., has been completed and is in operation.

The Avon Mfg. Co. has suceeeded the Gilmore Corrugated Soap Co., and has begun soap making on a small scale.

Edmond Urquhart, for many years president of the Wilcox Lard & Refining Co., and a director of the American Cotton Oil Co., is retiring from active connection with these firms, owing to ill-health. Many expressions of esteem and affection have been tendered him by his co-workers in both firms. Col. Urquhart was one of the pioneers of the cotton oil industry, having been the owner of a number of mills at the time of the Cotton Oil Trust twenty years ago, and conneeted with the latter ever since.

Incorporated: Quick-O. Manufacturing Company, Waterbury, Conn.; capital, $10,000; make soap, washing powder and perfumes.

The Scottish Co-operative Wholesale Society has authorized its directors to extend its soap works at Grangemouth, Scotland, at a cost of £3,500. At the Irlam soap and candle works of the English Wholesale Society the average weight of soap sent out has reached 272 tons per week, as compared with 224 tons at the corresponding period of 1902. For the three months just closed the value of the soap supplied was £72,333, and of candles £15,806, representing an increase of 17 per cent. in the twelve months. Of the total output no less than £42,467 worth is taken by the co-operative societies in the Manchester district.

The Home Soap Co., a Millbury company, was incorporated under the laws of Massachusetts a month ago. Capital stoek is $40,000. Gilbert E. Holmes is president, and Earle R. Avery is treasurer, and Thomas H. Sullivan is clerk.

The company has eommenced the erection of a rendering works near Millbury Junction, and the Grafton Country Club has alrady entered a protest with the Board of Health, which had granted a license on Nov. 23.

The death is announced of Stefan B. Pappazoglou, junior member of Botu Pappazoglou & Cie, of Kazanlik, Bulgaria. The deceased spent some time in this country two years ago.

William Weightman, one of the founders of the well-known Philadelphia house of Powers & Weightman, celebrated his ninetieth birthday recently, and in honor of the event a reception was given him by the employes of the laboratory.

Robert J. C. Walker, junior member of Powers & Weightman, died at his home in Philadelphia last month.

George H. Kane, superintendent of the Hamilton Soap Co., Paterson, N. J., fell into a kettle of soap while walking on a plank laid across the kettle. He

was promptly fished out before he was very seriously injured, his clothes serving as an efficient protection for the brief space of time of his sojourn in the kettle. But for the timely presence of his brother and another man, the result would have been quite different.

M. J. Sternberger thinks of engaging in soap manufacturing in Memphis, Tenn., making a specialty of "Anti-Board" soap.

The Operators' Tank & Warehouse Co., which is capitalized at $500,000, has among its stockholders practically all the leading turpentine operators in the state of Florida. The combine will endeavor to control the naval stores products of the above state.

N. Roy Bowman, of Albany, Wis., intends to branch out into soap making. He is now the manufacturer of a dandruff cure.

B. T. Babbitt & Co., of New York, have purchased a site of eighty-seven acres at North Bergen, N. J., just across the Hudson river from New York City. It is the intention of the company to erect a large soap factory on this site, embracing all the New York departments of the present plant. According to newspaper reports a member of the company stated recently:

"Our plans are not yet perfected, but as soon as they are the company will proceed with the work of erecting the necessary buildings. We have purchased eighty-seven acres of land, and one of the plans we have under consideration is the erection upon it of a number of houses for homes for our employes. Nothing definite has been determined on, and this project may be temporarily set aside, but I hardly think it will.

"You ask why we need so much land. It is because we will use it all. The plant we propose to put up is one for the future, and when finished will have a capacity to meet every demand we may make on it for many years, and then have room to expand. The land is not far from the Hackensack river, upon which we can bring small freight boats, and we can connect our works by private tracks with several railroads, so that we will have every possible advantage in shipping freight."

Incorporated: Anchor Core Soap Company, Chicago; capital, $50,000; manufacturing soap; incorporators, Edwin J. Mosser, Benjamin F. Ninde, John M. Bryant.

Charges of fraud, collusion and conspiracy are made in an action just brought in the Supreme Court through R. Floyd Clarke, representing holders of common stock of the National Salt Company, to have the sale of the plant of that company set aside and the receivers removed. Nathan S. Beardslee and Frank P. McDermott were appointed receivers of the property of the National Salt Company in October, 1902, and under an order of the Supreme Court they sold the properties at Ithaca on Sept. 15 last to Samuel D. Hallidy on a bid of $337,500. The stockholders declare the property was worth at least $900,000 more than this, and that the object of the sale was to turn the entire plant over to the International Salt Company at a ridiculously low figure, the latter company being the largest creditor of the other company.

James J. Tully, soap manufacturer of Philadelphia, Pa., died at his home in that city on Nov. 29. He was born in Philadelphia in 1848.

Sparks from the blacksmith shop, falling on the roof, damaged the machine shop of the Grasselli Chemical Co.'s works in Cleveland on Nov. 20, damaging especially materials stored in the upper floor of the shop.

Colonel Nathaniel Porter Sawyer, formerly a soap manufacturer of Pittsburg, and well known among the oldest residents, died at his residence, Morningside place, on Nov. 25. Colonel Sawyer was born at Third avenue and Wood street, 74 years ago, and had lived in Pittsburg all his life. He came from revolutionary stock, his grandfather, Nathaniel Sawyer, being an orderly for General Washington during the revolutionary war. He was formerly one of the most extensive soap manufacturers in the country, but retired from business in 1872. He had since been connected with the real estate business.

Kingan & Co. ask the city of Indianapolis to vacate a part of Blackford street, that part formerly known as Helen street. The company owns all of the adjacent property, and needs this additional area for improvements and for further auxiliary packing-house purposes.

The Buckeye Soap Co., of Dayton, Ohio, has added a new warehouse (at Detroit) to its list of storage places from which to supply customers. It has now nine warehouses in various parts of the country, shipping in car lots to each and then re-shipping from the several points as the trade may demand.

An automatic fire box in B. T. Babbitt's factory in New York rang in an alarm on the morning of Dec. 16. It was found to be caused by a slight blaze in the men's dressing room and which was quickly subdued.

The case of F. C. M. Lautz against Carl A. Lautz and others came up before Justice Lambert in special term of the Supreme Court last month. The case involves a

settlement of the partnership affairs of the soap making firm of Lautz Bros. & Co., rendered necessary because of the death of Charles Lautz in 1901. It was stated that the business is about to be reorganized and a corporation formed to carry it on under the name of Lautz Bros. & Co.

The Miller Soap Company, Dayton, Ohio, has changed its name to the National Soap and Chemical Company.

The Peabody correspondent of the Boston Morning Globe says: The old soap factory on Grave street has been leased by Thayer, Foss & Co., and is now painted the regular color, carmine red. Generations of soap makers, including the Shaws, Burbecks and Gays, have occupied this building, and fortunes were made there.

The Lenox Sprayer Co. has undertaken the manufacture of "Please" soap, recently introduced by W. A. Kingsbury, of Springfield, Mass.

The Procter & Gamble Soap Co. is looking for land near the site of its factory now being erected in Armourdale, Mo., for a model village for its 1,000 employes. The company has several tracts of land in view just west of the city limits of Kansas City, Kan. One of these sites is just west of the plant, another across the Union Pacific tracks from the plant on the hill side, and a third across the Kaw river on the Argentine side. About eight acres are desired for the village.

It is rumored that the Procter & Gamble Co. will build a soap plant in Buffalo or some other Eastern city.

John Dwight, pioneer manufacturer of bicarbonate of soda in this country, died Nov. 25 at his residence in New York City, aged 84 years. He was one of the oldest merchants of New York City engaged in active business. He came to New York in 1846 in company with his brother-in-law, Dr. Austin Church, and they together began in this country the manufacture of soda-saleratus and bicarbonate of soda under the firm name of John Dwight & Co. In 1896 this firm was merged in the corporation of Church & Dwight Co., of which Mr. Dwight was president at the time of his death.

Charles W. Young, of the firm of Charles W. Young & Co., soap manufacturers, died on Nov. 30, at his late residence, 2830 Girard avenue, Philadelphia. Mr. Young was born in Philadelphia on Oct. 22, 1853.

The American Soap Journal

We've been so busy getting out several carload orders and closing our books, that we've not thought of matter for our January advertisements and so will just wish you

A Happy New Year

and say that we find that our business has doubled this year over last and that we have not a "bad" or "dissatisfied" account on our ledger. Of course, we are delighted at this state of affairs, principally because it proves that our customers are in a state of **satisfaction,** and after all that is the most important thing to business success.

We've increased our plant and so are looking for new customers, and an opportunity to serve them; but here, this wasn't to be an "Ad."

H. W. DOPP CO. Buffalo, N. Y., U. S. A.

After receiving a public school education, at 17 years of age he entered the service of McKeone, Van Haagen & Co., at that time prominent soap manufacturers. He remained with that firm until his twenty-fourth year, when he began the manufacture of soap in an humble way on Franklin street, above Norris, and built up an extensive business. Mr. Young was taken with abdominal dropsy ten weeks ago. He rallied for a time and was supposed to be on the road to recovery. He leaves a widow and four children.

Additions to Our Brand List.

346 Beaumont Soap Co., Mayfield, Ky.
347 Lockwood Soap Co , Kansas City, Mo.
348 Oklahoma Soap & Oil Co., Oklahoma City.

Allpine Tar 337
Ammonaptha 347
Bestever 286
Big Injun 348
Bi-Naptha 348
Bleachem Soap 341
Breath of Heliotrope 337
Breath of Lilacs 337
Breath of Roses 337
Breath of Violets 337
Brightshine 106
Cream Naphtha 343
Egg Tar; Lee Specialty Co., Detroit, Mich.
Gasene 106
Gasoline Laundry Soap 120
Gray-beard 348
Green Oil Soap 341
Home Pride 347
India Castile 337
La Platte 337
Lily Blossoms 337
Marigold 106
Milo 106
Monahan's Green Soap 341
Naptha Washing Powder—(for Canada) W. H. Judd & Co. Hamilton, Ont.
O. K. Tar 348
Oilex 348
Orchid Blossoms 337
Oriental Tar 337
Papoose 348
Polar Bear 106
Pow Wow 348
Queen Regent 337
Quo Vadis 337
Raven Tar 337
Rio Grande 337
Rose Blossoms 337
Snow Float 348
Summer Blossoms 337
Sunburst 106
Tar Egg 347
Tarlex 348
Top Notch 106
Transparent Brilliant 337
Transparent Rose 337
Veribest 286
Violet Blossoms 337
Yellowstone 106

The Markets.

The advance in the price of tallow during the last week of 1903 has been unexpected by most consumers, being largely due to an increased export demand to make up for European shortages in the supply of soap stocks. Consumption in this country has also been unusually brisk for the time of the year, and no cause for an early decline can be prognosticated at this writing. Whatever may have been the condition of the prices obtained for soap, the damand for it has been very satisfactory.

In New York, city tallow in hhds. sold at 5c with more asked for further sales. Owing to the small stock on hand, sales for January delivery were unexpectedly free. Country tallow sold at 4¾ to 5c.

The scarcity and high price of palm oil as compared with prices earlier in the year have helped to further strengthen the tallow market.

Chicago prices ruled from 4¾c for city rendered to 5⅛c for prime packers.

GREASE, in sympathy with tallow, is about ⅛c higher than a week ago. 4⅜ to 4½c for bone and house grease; 4½ to 4⅝c for "B" white.

PALM OIL.—6¼ to 6½c for red; 7c for Lagos; supply limited.

COCOANUT OIL.—5½ to 5¾c asked for spot Ceylon; 6¼ to 6½c for Cochin oil.

GREASE STEARINE.—5c asked for white.

Revolution In Soap Drying.

We guarantee a saving of 90 per cent. in time and space and an all-round economical operation in our machines.

Write to

American Vacuum Drying Machine Company

120 Liberty Street - - NEW YORK

SUPPLEMENTARY LIST

OF THE

BRANDS OF SOAP MANUFACTURED IN THE UNITED STATES

Including also the Brands of Foreign Manufacture Registered as Trade-Marks in this Country.

NOTE: This list is compiled with the greatest possible care, but the publisher does not assume any responsibility other than to correct and to complete the list according to data obtained from official sources or furnished by the trade. Brands registered in the patent office as trade-marks or labels are given with the name of the party registering same. Brands or names marked * are those which were found to be used by more than one firm or the owner of which could not be ascertained. ☞ SEE THAT ALL YOUR BRANDS ARE ENTERED IN YOUR NAME.

3—Liberty Mfg. Co., Chicago.
344 Home Soap Co., N. Y.
345 Columbia Ref'g. & M'f'g Co. Ltd, New Orleans.

Abrado, Floridine Mfg. Co., New York.
A Happy Home 4
Alabama Tar 3
All-need it 286
Amazon Coco 337
Amber Rose 346
Anchor Castile 3
Angelus 54
Antelope 3
Antillia 2
Anty Up 340
Apple Blossom 337
Atoka 346

Baby Mine 8
Bannock 3
Beauty Belle 151
Beaumont's Shaving 346
Beef Oil 340
Bell's Brown 343
Bell's Naphtha 343
Ben Hur 3
Bicycle 3
Big Glycerine 3
Billy-Goat 340
Blossom Bouquet 3
Blue Chip 340
Blue C oud 2
Blue Coco 340
Blue Family 340
Blue Monday 340
Blue Olive 340
Boast 3
Botica Francisca 3
Bouquet Chic 3
Bouquet Reverie 3
Brazilian Bath 3
Bunny—Hewitt Bros. Soap Co. Dayton, Ohio.

Calcutta Castile 337
Calumet 3
Camille 3
Ceske Slovonsky 3
Ceske Polski 3
Chlorine 340
Cleaneasy 286
Climax Chip 54
Cloth Pin 340
Cloths Pin 340
Coa Nut 346
Coca Foam 3
Columbia 3
Conto & Elroy Castile 2
Credential Shaving Stic 6
Crown Princess 337
Crystal Honey 346
Crystal Sulphur 3
Crystal Palace 3
Crystal Transparent Tar 3
" " Carbolic 3
Cuban Rose 3
Cuta Alba 3
Cultoderma Medicated 3
Cycle 3

Dactylis 11
Dermicura 327
Diadem 3
Druggist's Transparent 3
Dr. Allens Medicated 3
Durango Best, Durango (Colo.) Soap Co.

Elk's Bouquet 346
Empress Eugenie 115
Empire Geranium 337
Eucryl Eucryl Ltd., Hull, England.
Eureka 3
Evergreen 286
Expert 286

Facine 340
Fairbank's Primrose 2
" Scouring 2
" German Fam. 2
" Glycerine-Tar 2
" Mottled Germ'n
" Olive 2
" Navy Blue 2
Federal Family 1
Floral Feast 115
Flannel 2
Flip 345
Force, Cincinnati Soap Co., Cincinnati, Ohio.
Fragrant Honey 2
French Violette 3
Frog 340

Gem Wash. Compound, Clara Pearce, Philadelphia.
Georgia Oleine 29
Geronne Violette 3
Geyser 343
Giant 3
Gloriola 29
Glycerated Tar 346
Glycerderma 3
Golden Rose 3
Gold Seal Soap Flour 340
Goodhair, Goodhair Remedy Co., Newark, Ohio.
Green Olive Chip 340
Green Palm 340
Green Seal Chip 340
Gusher 340

Hard Maple 155
Heliotrope Blanc 3
Heliotrope Ideal 334
Helix 54
Hi Lo 96
Home Castile 3
Horse Oil Harness 340
Hots Springs Bath 3
Hy-Lo 96

Ideal Bouquet 3
Ideal Family 3
Idyllwild 54
I-Lika-U 286
Ilo Ilo 340
Imperial Crown 3
Iroquois Maiden 115

Jack & Jill 340
Jack Pot 340
Japanese Bath 3
Jerone Bouquet 3
Jewel 2
Jus de Framboise 3

Kaska Bouquet 346
Kazan 343
Kimola, Bell Mg. Co., St. Louis, Mo.
King Solomon's Rock Oil S. Muross Jenkins, N. Y.

Lakeside (Scouring) 2
La Mariposa 54
Lamsuet 3
Lasco Napthol 54
Last Long 286.
La Virtho, John S. Nichols. New York.
Le Fameux 16
Le Fameux Rose de Seville 16
Le Fameux Violette de Sevill 16
Le Fameux Peau d'Espagne 16
Le Fameux Jockey Club 16
Lemola Toilet, Lemola Soap Co., Los Angeles, Cal.
Lemolive 54
Lemonine, E. H. Kraut, Cincinnati.
Lettuce Cream 3
Libertys London Transparent 3
Liberty's Quartette 3
Liberty's Genuine Bouquet 3
Limberine, E. A. Warren, St. Paul, Minn.
Lion 2
Lisette 3
Little Sweetheart 346
Llama 3
Long Shot 345
Lotus Bouquet 3
Lotus Honey 3
Lotus Glycerine 3

Madeira 16
Madeira Almond Cream 16
Madeira Cucumber Cream 16
Madeira Lettuce Cream 16
Madeira Olive Cream 16
Marjorie 337
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The Latest Complete Edition of Our

List of Soap Brands

was published on Jan. 1st, 1902. All new brands and changes that have been reported since that date are contained in the "Supplementary List" published on another page of this paper.

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Situation wanted by thoroughly competent and reliable soapmaker. Address: Y. Z., care of American Soap Journal, Milwaukee, Wis.

A first class Soapmaker wanted; One who has a knowledge of Chemistry, and is familiar with the manufacture of all kinds of Laundry and Textile Soaps. Reply, stating age, experience, references, and qualifications, as well as salary expected. This is a permanent position for the right man. Address, J. C. H. care of Letter Carrier No. 63, Buffalo, N. Y.

By an expert, all-round American soapmaker, for years superintendent of factory. To show good faith, will begin on trial without pay 'till ability is proved. Can refer to everyone of past employers without exception. Address: Frank W. Hill, care of American Soap Journal, Milwaukee, Wis.

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For Sale: One large continuous Screw Plodder, one set soap Cutting Machines complete, and one Boomer & Boschert Oil Press, used very little and all in very good condition. Cheap for Cash. Address: V. W. care of American Soap Journal, Milwaukee, Wis.

For Sale: A modern soap factory with best facilities for manufacturing on an economical basis, located in a fine city in the middle west, that can not be excelled for market of product, or getting raw material, also best social and educational facilities. Owner wants to retire on account of failing health; will sell on good terms, or with the right party may retain an interest in same. This is an opportunity to secure a bargain in a money making business. Address: "E. B. J." care of American Soap Journal and Mfg. Chemist.

HARD-WOOD BARRELS BOUGHT.

We buy empty hard-wood barrels of any description. KRELL BROTHERS, 1612 Cherry Street, Toledo, Ohio.

WANTED TO PURCHASE.

Second-hand machinery to fit up a soap factory; give full description with prices and address; "Soap Factory," care of American Soap Journal, Milwaukee, Wis.

FEB 8 1904 S.
PATENT OFFICE.

The American Soap Journal & Manufacturing Chemist.

A MONTHLY JOURNAL OF THE MANUFACTURING CHEMICAL INDUSTRIES.

DR. HENRY GATHMANN, Publisher.
2707 North Ave, Milwaukee.

MILWAUKEE, WIS., February 1, 1904.

VOL. XIV. No. 6.

THE AMERICAN SOAP JOURNAL AND MANUFACTURING CHEMIST.

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The AMERICAN SOAP JOURNAL AND MANUFACTURING CHEMIST is devoted to the interests of all manufacturing industries of a chemical character, and is an absolutely independent publication. It is the only newspaper of its kind in America and has also a large foreign circulation.

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Communications on industrial subjects, news items, and any information suitable for printing in these columns, are solicited and will have due attention.

Readers in search of machinery, supplies etc., not advertised in these columns, are invited to write us and we shall endeavor to supply the information.

Address all communications to

DR. HENRY GATHMANN, Publisher,
2707 NORTH AVENUE,
MILWAUKEE, WIS., U. S. A.

The recent comments, serious and otherwise, of several writers in the daily press, on the advisability of using soap in the care of the human body, have been somewhat surpirising to many, no doubt.

But all joking aside, there is a considerable amount of distrust in the public mind against soap. About three years ago the writer had occasion to attend frequently the clinic of skin diseases held in the dispensary of the Good Samaritan Hospital in New York, by Dr. Warrenne Allen, and it was a revelation to hear, as patient after patient was examined, that perhaps a majority of them dated the beginning of their skin disease—whatever its nature—from a well-remembered occasion when they had taken a bath!

Dr. Allen had heard this too often to remonstrate seriously against their views, but occasionally he would say, in mock solemnity: "Dear me, why *will* these people persist in taking a bath sooner or later in their lives?"

With some people the noxious effect of soap seems to be as fixed an idea as that Friday is an unlucky day, thirteen an unlucky number, finding a horse-shoe is a fortunate occurrence, etc., etc. Such beliefs are not to be eradicated in the short space of a century or two, and the only cause for surprise is that usually seriously-minded people can take up the argument in real earnest.

Some friends of the SOAP JOURNAL have at times been vexed (as we were ourselves) by occasional printers' errors occurring in our pages. They will rejoice in learning that we have no monopoly in that sort of thing. We read the other day, in a foreign (English) exchange of a filling for soap with which we had not previously been acquainted, and called "potatomial." Perhaps some readers may recognize this material on sight, but others will feel with us the disgust that overcame us on finding that it was only a misprint for "potato meal," or, in other words, a badly translated potato starch.

In our correspondence column this month we print a letter from Prof. Chas. H. Herty, in reference to certain communications previously received from Mr. Moulié and printed in this paper.

It has always been the policy of the American Soap Journal to open its pages freely to all bona fide readers who might have anything of interest to communicate to our other readers, and, as we have printed numerous

communications from Mr. Moulié, so we now also print that of Prof. Herty without, on our part, entering into the argument.

It only remains to quote from "Bulletin No. 40" those passages marked by Prof. Herty and referred to in his letter. They are as follows:

1. "In marked contrast with American methods are those employed in the pineries of Southern France.

"The small output of naval stores from the Southern States during the civil war and the years just following produced very high prices for all such products. This led the French to introduce more conservative and economical methods of operation, the Hugues' system, employing a clay cup and a zinc gutter, replacing the more wasteful method of collecting the resin in a hole dug in the sand at the base of the tree. In this system the scarification of the tree is effected by means of an axe with a curved face, the depth of the cut being one-third of an inch, and its width three and one-half inches. From this cut the resin flows over the gutter into the clay cup, which rests upon a nail. Under this system the trees are worked for from thirty to forty years.

"For the financial success of such a system trained foresters and cheap labor are necessary. Neither of these requirements is present in the Southern States. Again, the introduction of such a system would necessitate a complete change in labor, the negroes being skilled in the use of a tool very different from the French ax used in scarifying.

"The application of the French gutter, designed for a flat surface of a uniform width, is also impracticable, for in the American system of chipping two strokes are used, from the right and from the left sides, producing two exposed surfaces, meeting at an angle, the width of the face and the sharpness of the angle varying of necessity with the size of the tree."

2. "With the French system in mind as a point of departure, the system of cups and gutters described below was devised by the writer. * * * "

Kansas City papers during the early part of January reported:

"A number of Kansas grocery jobbers met at Kansas City, Mo., last week and talked over soap prices. Speaking of the matter of the meeting in a general way, one of the delegates said: "The soap makers have been favoring some jobbers. Frequently this has been the result of more favorable freight rates in different parts of Kansas. Taken all around, conditions have been such that we have not been able to make any money out of laundry soap. We do not want any reduction in prices, but we want the manufacturer to arrange things so that we shall all have an equal show in selling laundry soap."

Having no official account of this meeting, we cannot say to what extent the above report is incorrect; that it is largely so is self-evident. Fancy, if you can, a jobber saying: "We have not been able to make any money out of laundry soap; we do not want any reduction in prices, though, but only a chance to handle more of this soap."

We read in an English exchange that "the annual colonial report from the Administration of the Seychelles Islands contains a long and exhaustive description of the cocoanut industries of Ceylon and the East, from the growth of the palm in the plantations to the final processes connected with the manufactured products."

We have not seen this report as yet, but since several of our readers have of late evinced considerable interest in the literature on cocoanut oil making, the above reference may be useful to them.

A subscriber in New York State writes us: "There is a party in Albany who claims 'after many years of trials and experiments' to have succeeded in making floating soap by a chemical of which he is trying to sell the secret. The stuff costs 7 cents per pound and I believe it is baking powder! It does it, and we used it at home thirty years ago."

In view of the difficulty in obtaining such figures from really reliable sources, we have our doubts about the following from the Chicago Record-Herald of January 1, but print it for what it may be worth:

"The soap industry in Chicago is in a more satisfactory condition and on a firmer basis than it was last year. In supplying the increasing demand the factories have made $1,650,000 more soap in 1903 than they did in 1902, and the present year's product reaches the $12,000,000 mark. The prices of oils and fats used in soapmaking fell from the high rates which the manufacturers were obliged to pay in 1902, and they say they improved the quality of goods offered to the public. It is claimed that Chicago factories have been placed at a disadvantage through having been forced to grant large increases of wages in competition with soap made in New York, Detroit and other cities where there are no unions and where no corresponding increase in wages have taken place."

Last month we reported that objection had been made by the "Grafton Country Club" to the erection of a new soap works at Millbury, Mass. Subsequently we heard that, unusual as it may seem, the people of Millbury have become incensed at the action of the club, and, consid-

ering that the club sells liquors and drives fast automobiles, have expressed themselves to the effect that they would rather have the soap factory and have the club go away.

Did you ever?

"He who bloweth not his own horn, shall not find the same blown with a muchness."

Milwaukee, as a manufacturing city, occupies a far more prominent place than it is ordinarily credited with. In the census year of 1900 the value of products manufactured in Milwaukee was exceeded markedly by only the following American cities: New York, Chicago, Philadelphia, St. Louis and Boston, these cities each producing goods valued at *over* 200 million dollars.

Milwaukee, with an annual manufacture of goods valued at 123 million dollars, ranks with a class composed, besides itself, of Baltimore, Cincinnati, Cleveland, Newark, San Francisco and Buffalo.

The chief product of Milwaukee, contrary to the usual version, is machinery; its output of machinery in 1900 was valued at $14,000,000. Next is the production of malt beverages ($13,000,000) and then leather ($10,000,000). The chief other products are iron and steel, flour, packing house products, men's clothing, boots and shoes, furniture.

Important cities whose annual production is less than that of Milwaukee are : Buffalo, Minneapolis, Detroit, Louisville, Kansas City, Indianapolis, New Orleans, Omaha. It is to be remembered here that Milwaukee is ahead of all the cities just named, notwithstanding the fact that its largest single industry (machinery) is represented by 14 million dollars only, as compared with the flour industry of Minneapolis, valued at 49 millions, the packing house industry of Kansas City valued at 73 millions, the sugar and molasses refining of New Orleans, amounting to 22 millions, and so on.

Looked at from another point of view, Milwaukee as a slaughtering and meat packing center is larger than either Baltimore, Philadelphia, San Francisco or Louisville. As a flour milling center it is the third city in the Union (being preceded only by Minneapolis and—slightly—by New York City). In iron and steel production it ranks ahead of Philadelphia, Birmingham, Ala.; Columbus, O., and several other cities noted in connection with this industry. In foundry and machine shop products Milwaukee is the sixth city in the United States, and in hosiery and knit goods it takes the ninth place among all American cities. It is the seventh city in lumber and planing mill products (and, by the way, Wisconsin is the *first* state in lumber production). Furthermore, Milwaukee is the third city in the magnitude of its leather production, outranking in this respect New York, Chicago, Cincinnati, Lynn, etc. It is the eighth city in respect to brass casting and finishing, the sixth in agricultural implements, and is also on the list of cities noted for furniture and boot and shoe manufacture.

It is seen from the foregoing that the great brewing industry "that made Milwaukee famous," is not even the largest of our industries, but unfortunately it has obscured, in the public mind, the prominent position actually occupied by Milwaukee in the magnitude as well as diversity of its many industries.

The foregoing remarks are based on actual figures from the U. S. census reports.

From Correspondents.

OUR OLD-TIME REPUTATION IN ZION.

Zion City, Ill., 2707 Ezekiel Ave., Jan. 21, 1904.

Mr. H. Gathmann, Milwaukee, Wis.

Dear Sir: Kindly send me a sample copy of the American Soap Journal; will subscribe if it is the same up-to-date paper on soap that it was six years ago.

Respectfully, WM. JANS.

PLANT AND HELP WANTED.

Kansas City, Mo., Jan. 12, 1904.

American Soap Journal.

Gentlemen: We would like to be placed in communication with some firm, somewhere, who puts up plants for the manufacture of milled toilet soap; also would like the name of some man who understands the manufacture of the soap. We believe we have noticed such advertisements in your Soap Journal. Kindly send us their address and greatly oblige. Truly yours,

MEXICAN ROOT SOAP CO.

MAN WANTS BUT LITTLE HERE BELOW.

Chattanooga, Tenn., Jan. 8, 1904.

Dr. Henry Gathmann.

Dear Sir: I thank you for a copy of your Journal, which I have read with interest. I am arranging to establish a factory here and will a little later subscribe for the paper.

I want just now a formula for a soap powder that will not injure the skin or fabric, that will not, or does contain naphtha. Could you furnish me one that would be reliable to use in my factory.

I make a plain soap powder, that is popular with users, but it is a little too expensive, and I cannot reduce the expense and retain the good features. I would be thankful for any suggestions on a soap powder.

Yours truly, —— —— ——

FROM PROF. HERTY.

UNITED STATES DEPARTMENT OF AGRICULTURE; BUREAU OF FORESTRY, WASHINGTON, D. C.

Division of Forest Investigation.

Jacksonvile, Fla., Jan. 1, 1904.

Editor American Soap Journal and Mfg. Chemist.

Dear Sir: It has been brought to my attention that from time to time during the past year there have appeared in your Journal articles from a Jacksonville correspondent, in which effort has been made to discredit my connection with the cup and gutter system of turpentining originated by me (and now being advocated by the United States Bureau of Forestry) on the ground that I have sought to take to myself credit which belongs to the French people, and especially to Hugues, the first to advocate the use of a cup.

The fight against box cutting in the turpentine belt is too vital a matter to have the issue clouded by any personal controversy. In order, however, that you may be in possession of facts, I beg to call your attention to the marked passages on pages 15 and 16 of bulletin No. 40, issued by the Department of Agriculture, and bearing my name as author. Very truly yours,

CHAS. S. HERTY, Expert.

(In connection with this letter see our editorial column in this issue. Editor A. S. J.)

ON SOAP BRANDS.

American Soap Journal.

Gentlemen: Will you please give us the desired information, whom we should address so that we will be able to secure our brands of soap registered; also give us an outline of the book that you print wherein all soap brands, registered and unregistered, can be found, and the price thereof per year. How often is the book issued and are there any supplements issued from time to time. Thanking you in advance, we remain,

Yours truly, W. S.

(As the above are frequently recurring questions, we take this opportunity to state that: 1. A manufacturer may attend himself to the registration of his brands, by obtaining the necessary blanks, etc., from the Commissioner of Patents, Washington, D. C., and complying with his instructions. Usually, however, it will save time and trouble to leave the matter to a patent attorney, among whom we may name Wm. G. Henderson, Washington, D. C. 2. Our List of Soap Brands appears in book form from time to time, as the accumulation of new brands may require. A supplement to it appears in every issue of this paper, so that the *latest* Soap Journal and the latest edition of the main list in book form, *taken together,* at all times form the complete list.—Editor A. S. J.)

SOAP SHEETS WANTED.

St. Louis, Jan. 23, 1904.

Dr. Henry Gathmann, care American Soap Journal, Milwaukee, Wis.

Dear Sir: To the courtesy of Gratiot & Gratiot we are indebted for your address. We are endeavoring to find the names of manufacturers of soap in thin sheets resembling ordinary writing paper. We have seen some of this class of goods put up in advertising packages, but were unable to locate the manufacturers of same.

Hoping you can give us the above information, we remain, Respectfully yours,

SKINNER & KENNEDY STATIONERY CO.

(We recently answered an enquirer on the same subject; parties interested may write the above-named writers directly.—Editor A. S. J.)

NAVAL STORES MATTERS.

Jacksonville, Fla., Jan. 18, 1904.

Editor American Soap Journal.

I want to redeem my promise concerning the convention held here by the Turpentine Operators' Association on the 10th, 11th and 12th of September last. I have already spoken of the "Tank, Etc., Association," and I will pass that. At the first session, as it is always the case, several addresses of welcome were the special features. At the convention of 1902, the addresses were delivered by the mayor, Hon. D. U. Fletcher, and by the Governor, W. T. Jennings, but at the last convention the addresses were made by the new mayor and an ex-governor.

You published in 1902 in the Journal part of the mayor's address, and in full the one made by the governor. Both were strong addresses and intended to make the turpentine operators realize that their welcome depended entirely on their behavior. The lash was applied freely and forcibly on account of the devastation of the pine forests in other states, and the turpentine operators were made to understand, also, that the welcome extended to them was on condition that they would not *"Do unto us what they had done unto others"*; indeed, there was pathos in the closing the mayor's address, when he said: *"You are welcome to improve yours' and others' conditions, but for God's sake leave something behind when you are gone!"* At the last convention the addresses were quite different. The welcome extended was without limits and without reserve. Innumerable "bouquets" were thrown to the operators, and the mayor concluded in saying, "The city of Jacksonville and all that there is in it, is yours; do whatever you please, and if anyone interferes, I will hurl at him fifty policemen!" That was nice, indeed, was not it? Well, I took my exit after hearing this, and I had hardly reached the middle of

the viaduct when I heard behind me some feminine screams. I looked back and saw, at some hundred yards, a pretty girl, stylishly dressed, in the arms of a turpentine operator, who was kissing her; he seemed to enjoy himself immensely, and, to tell the truth, the screams had something of the laughing kind in them. The operator was taking the mayor's recommendation to the letter, you see. The girl, however, escaped, and came running and laughing in my direction. The bright idea that I could myself pose for an "operator" struck me, and when she reached me, I caught her also in my arms and kissed her several times, but I saw a wrist go up and many stars, and heard a running away with these words: "G'way white man, I knows you, you is the C'lone man," and I realized that we had been kissing a pretty, fashionably dressed "mulatto!" I have been sporting a black eye for ten days, thanks to the recommendation of the mayor to the turpentine operators.

You are going to ask, why the girl laughed when the "operator" operated, and made me see stars when I "emulated?" Well, you see the "other" operator is a handsome fellow and young, while I am neither. Moral: It serves me right.

At the second session was disclosed the fact that the T. O. A. was not financially in prosperous conditions, lots of members being derelict in the payment of membership fees and subscription to their organ, the Industrial Record, to the amount of considerably above the $1,000 mark. But the agitation of that interesting question was promptly brought to an end when one of the high officials of the "Consolidated" went forward, saying that other matters of greater importance having to be attended to, they, the "Consolidated," would pay for the delinquents. Are not these turpentine operators lucky? First, the government pays all expenses, for their exclusive benefit, in instructing them in the use of the Hugues' (cup) system. Second, they are laboriously shown where their interests and advantages lie. Third, they have only to say a word and, presto, the expert goes to them and "practically" puts the cups and appliances in place and always at the cost of the government. Fourth. The expert is sent to France to investigate and find out in what way the T. O. may be benefited further, and always without a cent of cost to them. Fifth. When they go to the convention, railroads and other conveyances have to give them reduced rates. Sixth. The same with hotel owners. Seventh. The hall where the convention is held is also free, and, Eighth, the privilege of kissing mulatto girls also free. Ah, I tell you, it is grand to be able to be a turpentine operator! Do they need all these favors? You may judge by yourself.

At the 1902 convention the president declared that the work of the association had produced a bonus of between three and four millions of dollars in "economy" lines. The prices of their products had reached the double of the prices on which there was a reasonable profit. The same had obtained during 1903, and thanks to the "TANK" affair, it bids fair that the "consumer" will continue to help the government, the railroads, the hotels, etc., to fill the operators' coffers, until, as a member of the defunct legislature puts it, "there is not a 'stick' standing in Florida for the navel stores industry."

The third session was mostly devoted to two features, both more interesting for me than for anybody else, I believe. One was the report of Prof. Herty of his trip to France. He first began by saying that that part of the country where the turpentining takes place was some years ago the poorest of France, but now it was the richest. He next brought forth his "stereoptical" machine and showed many photographs in which the "cup" was very prominent, so much so, that a turpentine man, not far from me, told his next comrade: "Say, John, I wonder what business the professor had, to go and install 'his system' there and teach these French people how to make use of it?" "I think it is very foolish, Bob, to say the least," was the reply .

Prof. Herty, continuing, said, in showing a picture of a field all covered with "pine cones," symetrically arranged in rows, that there was a nice income from these pine cones. He showed also a field covered with large blocks of colophony (called here rosin), which were there to be "bleached," and he said that it was far superior to the American rosin. He also showed a pine tree which had been turpentined for 50 years. He showed and said many other things, the most startling of which was, that it was 60 years after Hugues had invented the system that the French people took to it; they had paid no attention to it during 60 years. Great Scott! Where and from whom did the gentleman gather that information? Never mind if it is so, he has adopted a system in operation for over 40 years, and consequently invented 100 years ago. The other feature of that session, the last to relate, concerns your servant.

One Mr. Sutherland, known as the "silver-tongued" orator of the T. O. A., came forward, carrying upon a tray a magnificent "silver tea set." He motioned to silence with success and after at least five minutes, during which he had exerted himself to "strike" a "striking" attitude, he said:

"Ladies and Gentlemen (There were just two ladies): This is a silver tea set to be presented here to a per—— but I am not going to tell you yet, to whom——. It is *not* to our president, although he is well deserving of the honor. It is *not* to our secretary, *nor* to our treasurer, although both have done splendidly toward the association. It is to a man who has been wronged deeply, to a man who has been represented as the enemy of our in-

dustry, while on the contrary, he is the greatest friend the industry has, and that man is E. Moulié, whom I see yonder in a corner, just as the modest man he is. (I kept in the dark on account of my black eye.) I am *not* going to say that I am surprised at your surprise; no, it is natural, considering the fact that you all have read the 'editorial' in a recent issue of the Industrial Record, and subsequently, an article signed 'S. L. P.,' appearing also in the same paper, our own organ. The malicious and slanderous character of these two articles have been discovered by an investigation made by reliable members of the association, and no doubt of the offense can be entertained—it has been branded as contemptible.

"The 'editorial' ridiculously shows Moulié as a 'vender of his murk,' and a poor creature of no account anyhow, which contrasts singularly with the *eulogies and long article* published some months previous *in the same paper;* it indicates, at least, a very poor regard for consistency. Then, it shows Moulié as having had some relations with W. R. Carter, the editor of the Metropolis, in which the latter was the loser of some $700.00, while the fact is that a lawsuit *was* and is pending before the circuit court in which lawsuit Moulié makes Carter defendant in a claim of $160.00 cash due Moulié and damages for breach of contract. It then takes from the 'American Soap Journal' a communication from E. Moulié, which communication is nothing less than a petition by E. Moulié to the last legislature, and instead of copying faithfully the parts referred to, it falsifies some and suppresses others in order to represent Moulié as an enemy of the assoeiation and of the industry generally, while on the contrary every word of E. Moulié is true, and, if presented fairly to the readers of the Industrial Record, our organ, Moulié would have been found correct and justified in making the disclosures he has made.

"The turpentine operators are honest and do not want to countenance crooked methods of exposing facts or individuals, hence the thorough investigation by the said members, and had it not been for the good nature of Moulié, who 'jess laff' at these attacks, the editor of the Industrial Record would have been asked to send in his resignation.

"The investigation has shown that before some of us were born, when some others were hanging to their mothers' apron, and some others were but school boys, Moulié was engaged in the manufacture of naval stores. He saw the birth and the growing up of the Hugues' system, exploited here by Prof. Herty. He was the first using 'steam' for distillation, as he was the first rectifying spirits for the arts on a commercial scale. He perfected the system of rectification (when he was working on his own account) to such a degree that in 1876, in a scientific and industrial exposition, at Bordeaux, under the directions of Mr. Gassie, who was also president of the 'Society of Ethnology,' a diploma of honor (the highest reward) was awarded him for his 'Rectified Spirits of Turpentine for the Arts,' exhibited under four different scales, for four different purposes. When he came to this country he created the industry of 'Raw Materials for Perfumery and Perfumery from Same,' and against all the odds and obstacles, has gained a world-wide reputation in that line, and several rewards at expositions, among which a gold medal. In 1891, seeing the wastes in the turpentining process here, he wrote for the American Soap Journal a communication, giving away for the benefit of all concerned, without any remuneration whatever, the very system which is exploited now with such promises of success.

"And, because seeing the coming exhaustion in this, his adopted state, of her resources in that line, and the inevitable consequences of a change in the climate, which may render his 23 years of pioneering work useless in rendering impossible the development of his cherished industry, he protests as forcibly as his nature and devotion to the welfare, even of ourselves, will permit, he is slandered and ridiculed! This is wrong, utterly wrong, and I am proud to be delegated to present to him as a token of our esteem, as well as of a recognition of his services, this tea set. As far as the article signed with the initials 'S. L. P.' is concerned, we will not ask the editor to betray the real author, but it must be clearly understood that we class him among those, alas, too numerous unworthy sons of this land of the free and the home of the brave, who *shoot their man from behind the bushes* and is consequently deserving only of contempt. Now, Mr. Moulié, please come and accept this tea set and forgive!"

I went forward (with my black eye under cover) and in a few words expressed my appreciation. These words must have been somewhat *deep,* for I saw some handkerchiefs doing office, which I had not seen before. But, high as the honor was, I was not absolutely elated. To present a tea set to a Frenchman betrays an ignorance of his taste very regrettable. We, French people, drink tea when circumstances in the Anglo-Saxon countries call for a dose of paregoric or Perry Starr's Pain Killer, so you must pardon me when I own that I was computing in my mind how much that set would bring at a pawn shop for a new suit of clothes, of which I was then in great need, when, suddenly, a warm wave of generosity embraced me, and putting into action the divine advice of Our Savior, "Render good for evil," I approached the editor of the Industrial Record, who had just entered, and begged him to accept that tea set as a token of my forgiveness: he is married and, I am told, blessed with eleven children: so, he accepted the present and I can

tell you now, that if I needed a friend going through the fire to do me a good turn, he would be that friend.

This planet of ours is, indeed, very small, for, astonishing as the foregoing may seem, the following is *stranger yet.*

I have discovered that Mr. Sutherland, the silver-tongued orator, and I had met before this. It was this way: When I came to this country, in 1879, I took berth on board the steamship "Australia," of the Anchor line, in London, where I had spent some weeks. In the steerage there was a boy about ten or eleven years old, very smart and intelligent; he could do any kind of tricks, walk on his hands, etc. The commander of the ship, Capt. Ward, took a liking for the boy, who often was allowed to "cross the line" and to come on our deck; his name was Sutherland.

When I was in Chicago in 1891, where I spent the summer, one day I was attracted by a "long-winded" speech, which a young man of about 22 years of age was delivering in a masterly manner. Somehow I connected him in my mind with the boy of the ship Australia, and told him so. "Why, yes," he said, "I am the boy, and I am here making 'high-toned speeches' for the Seven Sutherland Sisters.' When Mr. Sutherland made the "oration" in the presentation of the tea set, the "I am *not* going to say this or that," or "I am *not* going to give this to such and such," struck me as though I had heard that before, and sure enough, he is the same Sutherland of old. This is certainly a small world after all. Yours truly, E. MOULIE.

"Chapped Hands," "Rough Skin," Soaps To Prevent and Cure Them.

BY GEO. A. SCHMIDT, CHICAGO.

At this season of the year complaints about the bad effects of soaps increase regularly and lend color to those emotional essays going the rounds of the press warning the public against the use of soap. I had hoped some of my colleagues would take up the gauntlet and show the author of the ridiculous statements referred to, where he makes his mistakes: but it seems they are too busy getting orders (at any price) which might otherwise go to their competitors, and so they do not find the time to defend the merits of their products. It is due to their kindness of taking off of our hands, by agreeing to do the routine work of ordinary soap-making at a lower price than we consent to work for, that the writer finds time to write. To show his appreciation of such action, he has taken it upon himself to prove to the public that the complaining parties, and not soap manufacturers, are the cause of dissatisfaction arising from the indiscriminate use of soaps.

It would have been preferable to use as a heading to this essay, "The Science and the Art of Washing," but dear experience has taught the writer that very few persons care to read about "science" or "art;" nearly all want *practical* "short and to the point" information about the much complicated and valuable processes of manufacture, as well as about methods of using articles all for the trouble of asking in a few words, and at the expense of mailing the letter. Those, however, who expect not only "food for thought" but also the *digestion* of same, will find themselves disappointed in most cases: the writer at least does not propose to furnish simple formulas, but will give such pointers as will enable every *thinking* person to greatly improve soaps uesd for fine toilet purposes.

Once in a great while accident is responsible for a valuable discovery, but as a rule a thorough *practical* knowledge of materials, of the *principles* underlying processes of manufacture, and close and long continued observation during practical work, are indispensable to aid *scientific* knowledge and research, and to make it useful. A combination of the two is necessary to achieve the best results. The practical soapmaker who has observed the behavior of his soap solutions while boiling, is able to see "with his mind's eye" the cause of "chapped hands," and *knowing* the cause is the first step towards being able to remove same. To comprehend the following examples, be sure to put specs on your "mind's eye" or use "the microscope," otherwise you may fail to see the similarity.

Soap, dissolved in water, and in the presence of foreign "salts" separates, the pure soap floating on the surface, the impure, salty lyes settle to the bottom—this happens in your kettles where you can see it with your eyes, but it also happens when *using* improperly made soaps on your skin, and the chapping of hands, and roughness of the skin tell the tale. Cocoanut soaps make thin solutions, thin enough to *saturate* the skin and ruin it in time, unless great care is taken to remove every trace of the same from the skin.

Those soapmakers who have given some attention to soaps fit for cleaning carpets on the floor, will understand better the principles to be followed in the manufacture of really good skin soaps. The problems to be solved are similar, quite different from those governing the making of soaps used for washing fabrics; these latter are cleaned by liquid solvents—soap solutions (or benzine in so-called dry or chemical cleaning), passing *through* the meshes of the cloth: by such action the "dirt" is dissolved and carried off by the liquid solvent, which in time is removed by clean water, until finally the last trace is removed by evaporation, thus leaving the article clean and pure.

The carpet, however, to be cleaned on the floor, can be approached *from one side only*, the dirt cannot be driven out by solutions passing *through*, it must be taken

up by jelly-like mixtures of properly prepared soap and water; these are spread over the carpet and the bristles of a wll selected brush force fine thin "tongues" of soap-jelly into the meshes; these "lick up," absorb, dirt, dust, germs, etc., and pressure applied with the carpet scraper forees the soapy filaments up and out, rather than down, as might be supposed, they retreat and go back to unite with the mass of the now dark and dirty jelly remaining *on top* of the carpet, the under side of which remains quite dry.

This principle has to be modified in the case of skin soaps as a matter of course; no materials are to be employed which are not perfeetly sweet and wholesome, but the same general rules are to be observed while making both kinds of soaps.

The cause of cracked, rough skin lies in the infiltration of corrosive liquids, (the same causes which prohibit the continued use of liquid skin sterilizers with corrosive, poisonous action, by physicians; their frequent use keeps the skin saturated and destroys living tissue as well as germs and microbes). Therefore all materials must be avoided which form solutions able to penetrate those minutest skin openings which nature intended to be closed against the entranee of external influences. The experienced soapmaker need not be told that pure tallow, olive, sesame and many other oils can be made into soaps whose solutions possess sufficient viscocity so they cannot penetrate where they can do any damage; (see the very interesting essay by H. W. Hillyer on "The Cleaning Power of Soap," in reeent number of THE AMERICAN SOAP JOURNAL).

The problem which presents most difficulties is to make the soapy filaments or "tongues" penetrate to where they are to purify. Hair bristles, such as are used in brushes whieh render excellent service in carpet, etc., cleaning, are far too coarse to push down into the finest skin recesses, into the furrows which intersect the human skin in many directions.

"Gritty" soaps have been tried and answer their purpose in some cases fairly well, but the human skin is so delicately constructed that the cheap grits, so extensively used, are often found unsatisfactory, especially if combined with soaps described above as unfit. The natural gritty substances must be properly and carefully selected and prepared, and it is quite interesting to make the followong *laboratory* experiment, in order to observe what great improvements in efficiency may be made by even an exceedingly simple process. The latter is patented, and you are not permitted to use it for *commercial* purposes.

Take the much advertised, extensively used natural absorbent, common pure talcum powder, which is altogether unfit, in its natural state, for a cleaner, because it is too smooth and slippery; heat it to about 2000 degrees and you will have, when cooled, an excellent medium with whieh to "push down" the soap filaments as above indicated. The heating process covers it with innumerable fine crystalline points. There is another beneficial aetion in properly prepared grit; as the mechanical action of the tooth brush on the gums and teeth forms the best stimulant for healthy action of the glands of the mouth, so does carefully selected, properly prepared and combined "grit" prove to be the best stimulant for the skin, and the use of soaps prepared according to above principles will be found the best preventatives and cures for chapped and cracked skin.

There is another feature in this class of gritty soaps for which the writer has recently sought to obtain a patent. Many medical ingredients mixed with soaps are changed by chemical action; if these ingredients are liquified, mixed with freshly calcined (dried with great heat) gritty substances and subjected to high air pressures in sealed vessels, these extracts of drugs, etc., are forced into the minute cavities with which each granule is covered and, if afterwards dried and mixed with soap, the latter, on acocunt of its greater viscosity, does not penetrate into these tiny openings, consequently does not eome in contact, and does not change by chemical action, even corrosive sublimate or similar, easily decomposed, ingredients. The principle is the same as with baking powder, where the bicarbonates are kept from the influence of the acids by an admixture of starch; as soon as milk or water is added when making dough, chemical action sets in, gases are liberated and raise the dough. The action of the new improvements on soaps is similar. Readers of the SOAP JOURNAL desiring samples of same may address the author or the editor of this JOURNAL.

Some Singular Relations Between The Uses and Properties of Matter.

BY DR. PETER T. AUSTEN, F. C. S.

In the manufacture of almost every substance there are formed by-products which cannot be used by the consumer of the main product. But to manufacture the main product profitably it is necessary to dispose of the by-products to other classes of consumers, in order to distribute the cost of manufacture and reduce as much as possible the cost of making each article.

The consumer of the main and by-products quite frequently are not aequainted with each other, and each is therefore surprised to learn that others, in branches of trade entirely foreign to his, are interested in the success of his business; for the more each consumes, the cheaper will each get his products.

In fact, the relation between the main and by-products changes at times. the by-product becoming the main

product, and the main product taking the second place. For instance, in manufacturing illuminating gas, at first gas was the main product, and the ammoniacal water, tar, etc., were by-products, but now that all of these products have been utilized and are in demand, gas can hardly be called the main product.

The connections and relations between the uses of various manufactured products are little known to the public. It is interesting to trace them out. Sometimes they possess real scientific interest, which indicates evolution under unsuspected laws. Frequently they indicate relations not in accordance with the properties of the matter, a relationship which in its nature must be artificial, unstable and opposed to thrift and progress. Again, others of these relationships are so absurd or grotesque that one cannot refrain from drawing some humorous or satirical inference from them.

In the manufacture of tallow candles the by-product is glycerine. If glycerine were not readily disposed of, tallow candles would be very expensive. But there are many uses for glycerine, and so tallow candles, though largely replaced by paraffine candles, are still used extensively, and especially in ritualistic churches. The principal use of glycerine is to make dynamite. Those forms of ritualistic worship which employ tallow candles become at once of interest to those who use dynamite. Dynamite is used chiefly as an explosive for blasting and in warfare. Blasting is used in tunneling, mining and similar engineering operations. Thus, while the churches that use tallow candles decry the pursuit of gold, they still encourage the production of precious metals by encouraging the tallow candle industry, which is directly related to the manufacture of dynamite. But when dynamite is used in warfare to kill and maim, then this relationship should be understood.

It became possible to extract the glycerine from the waste liquors produced from the manufacture of soap, and now a great part of the glycerine produced comes from this source. The more soap used, the greater the supply of glycerine raw material. So cleanliness, instead of remaining akin to godliness, becomes a near relation of mining and blowing up men of war.

"Wear a clean shirt every day. Use more soap," urges the chemist, "so that we may get cheaper soap 'niggers,' and thus reduce the cost of glycerine."

"Wash, Wash, Wash!" should sing the miners, "and increase the demand for soap, that we may get our nitroglycerine cheaper." "Wash your clothes oftener, burn more tallow candles, don't neglect your social and religious duties," demand the mining engineers, "and so help use reduce the cost of dynamite, for the cost of blasting out ore is too high."

"Ah," exclaims the inquisitive chemist, as he analyzes the liquid issuing from the city sewers, "what a lot of soap these people are using. We must get that out somehow." So he devises an adroit process whereby the sewage is processed and the fat extracted from it in a form convertible into soap again. This cheapens the cost of soap, and the poor are enabled to keep clean at less cost. But this form of cleanliness does not interest the maker of dynamite, because there is no glycerine produced as a by-product. So we may say restrictedly that the cleanliness of the poor is still akin to godliness; for, as the great Hofmann used to say, "with the gods and the chemists all things are possible."

In the manufacture of soap there is used caustic soda, and this form of soda is manufactured from salt, ammonia and carbonic acid. The salt is extracted from the earth, the ammonia is made from the liquors of the manufacture of illuminating gas, and carbonic acid gas is generated by heating limestone. In this way new classes of people become interested in the use of soap, and the story begins to partake of the nature of the "House that Jack Built." People who read, study and write, use gas. The more gas that is used, the cheaper the ammonia, the cheaper the soda, the cheaper the soap, the cheaper the glycerine, the cheaper the dynamite, the cheaper the cost of mining, the cheaper the cost of copper. Hence it is to the interests of the soap industry to encourage education. Soap manufacturers should endow college departments, encourage cheap literature (in small type), promote anything that necessitates reading, thus increasing the consumption of gas. They will thus be able to make their soap cheaper and to buy copper boilers cheaper. I do not see how the soap industry is benefited by electric lighting.

Ammonia is also made by the distillation of scrap-leather. Hence it would appear that shoe manufacturers are in a way rivals of gas manufacturers, because if a shoe manufacturer can sell his scrap to a manufacturer of ammonia, he reduces the cost of shoes. He is, therefore, not interested in manufactures that produce ammonia from other sources. He is not benefited by the production of ammonia as a by-product in the manufacture of illuminating gas. Hence, if he encourages reading and studying, he should demand the use of electric light or kerosene.

The more people walk, the faster they wear out their shoes, and hence the more shoes to be manufactured. The more shoes, the more leather-scrap, the more ammonia, the more soda, the cheaper the soap. Therefore the soap-maker should encourage pedestrianism, outdoor exercise and athletics. But, as shoes are worn out most quickly on rough roads, it would seem that the soap industry should be averse to good roads. A rough and dusty road will be to their interest, for it will use up leather and compel the use of soap, thus at the same time assisting in increasing the supply of an interme-

diate article and aiding the sale of the finished product.

It is evident that a shoe manufacturer should encourage the use of soap, since in this way the demand for leather-scrap is increased, the series being: scrap-ammonia-soda-soap. Shoemakers should be careful to wear scrupulously clean linen, bathe every day and wash their hands and faces frequently. In this way they will help the soap industry, which in turn will enable them to get a price for their leather-scrap, and so make more profit on the shoes they manufacture.

Whether a soapmaker should be a vegetarian or not is not quite clear. He uses both animal and vegetable fats in making soap. But those manufacturers who make their soaps exclusively from animal fats cannot consistently be vegetarians, because the more animals that are slaughtered the cheaper will be the fats. But, on the other hand, those soapmakers who use vegetable fats entirely should be strenuous vegetarians. Ritualists, it would appear, cannot consistently be vegetarians, because such an attitude might endanger the supply of tallow candles demanded by their church ceremonials.

As ammonia is now used largely in producing refrigeration and artificial ice, and as ammonia is a by-product of the manufacture of illuminating gas, the industries of illumination and refrigeration become related. Hence gasmakers and shoemakers should drink beer, eat iced cream, consume iced water and in general encourage those industries which use refrigerators. A great deal of the ammonia which is produced is used as a fertilizer. Therefore these manufacturers should encourage agriculture, so as to increase the demand for ammonia salts.

Leather-scrap is also used in the manufacture of Prussian blue, and this again is a component of green. It would seem that the shoemakers should encourage a taste for blue and green paint, and thus increase the demand for their leather-scrap.

The present craze for automobiles threatens grave complication in the relations of manufacturers. Dead horses yield many valuable products. Their fat is used for making soap and glycerine. But if the automobile extinguishes the horse-raising industry, then this source of fat for making soap and glycerine will be removed. Hence it appears that automobiling is opposed to cleanliness, to the textile industry, to explosives and to low cost in mining.

The extinction of the horse will shut off the supply of horse-oil, which is sold in large quantities under the name of neatsfoot oil, and is used for softening leather. Hence automobiling will increase the cost of shoes and tend to discourage pedestrianism, although it ought to encourage smooth roads and other conditions favorable to the life of the shoe. As a part of the horse is transformed into fertilizer, automobolism is not favorable to agriculture and will not tend to decrease the cost of farm produce. Nor will it aid the garden-truck business, for horse manure is largely used in truck farming. As gasoline is a by-product of the manufacture of kerosene, the automobilist should not use gas or electricity as an illuminant, but kerosene, so as to increase its use, and thus encourage the production of the by-product, gasoline, and ensure its low prices. Women automobilists should seal their jelly glasses with paraffine, which is also a by-product of the kerosene industry. Automobilists must not be so unreasonable as to expect to continue to get horse-hide covering for the seats of their machines at a moderate price.

Looking at the subject seriously, however, it is very interesting to note how the discovery of some new change of matter may break apart allied manufacturers, or bring into partnership ones formerly not closely associated. Such changes are really kaleidoscopic in their nature, the same constituents forming new groups which in turn assume new relations.

The manufacture of soap has heretofore consisted in saponifying fats (compounds of glycerine and fatty acids) by boiling them with an alkali, then salting out the soap and refining it. The soap manufacturers bought, as crude materials, alkali, fat and salt. It was undesirable for the soap manufacturer to make his own alkali, because the process is cumbrous, complicated and expensive, and, from a commercial standpoint, quite out of the question unless manufactured on a much larger scale than is required by the average soapmaker. But the discovery that it is possible to electrolyze a solution of salt into caustic soda and chlorine at once makes it possible for soapmakers, who can get a cheaper supply of electricity, to make their own alkali directly from salt, and thus save some of the manufacturing cost of the alkali. But the making of their own alkali by an electrolytic method involves the simultaneous production of chlorine, a substance which finds no utilization in the manufacture of soap. In order to get the benefit of the reduced cost of alkali, the soapmaker may find himself compelled to go into a new business, viz., the manufacture of bleach.

Chlorine is sold in the form of chloride of lime and is used largely in the textile industry for bleaching. It is used also in a compressed state in the chlorination process for treating gold ores. Large quantities of chloride of lime are sold also for disinfecting. As the soapmaker sells soap directly to the textile industry he is in a good position to introduce and dispose of his bleach, which also is used by the textile industry. For other purposes this bleach can be sold through the usual channels of trade. He is therefore well placed to distribute his costs between soap and bleach in a way to make his position a strong one. Thus the adoption of the electrolytic process ought to bring together two industries never

before associated, the manufacture of soap and of bleach, to the benefit of the consumers of both of these articles.

Here again new and subtle relations are established between different kinds of industry. The soap-maker becomes interested in disinfection, and hence is an advocate of sanitation. One the other hand, the more the populace uses soap the cheaper will be the cost of disinfecting. The lighter the tints of dyes used in the textile industry, the more bleach will be required on the original stock. Hence he soap-maker becomes interested in the fashions, and especially those which call for highly bleached textiles. He also has an interest in the working of low-grade gold ores by chlorination, thus increasing the interest in metallurgy already aequired through his production of glycerine. As bleach is used in the manufacture of white paper, literature and education are seen to be directly connected with the manufacture of soap. So, in fact, could many direct and cross relations be traced out between the manufactures of various common products, and in not a few instances the inferences are amusing and unexpected.—Chemical Trade Review.

American and Other Soaps in South Africa.

Prior to the recent South African war, practically no thought was given by American soap manufacturers to the possible market in South Africa. The prospects of a new and important market being opened there, whenever the war should end, attracted marked attention at the time, but at the close of the war a local soap industry promptly developed and we are even now in correspondence with a number of soap factories in Cape Colony, Natal, etc., which we sincerely hope will not fail to flourish.

At the same time, the hope of finding a good market for soap in South Africa has not let manufacturers in Europe and even in America rest, and so the Bluebook just issued by the English government contains the following summary of the situation, written by a special commissioner appointed to inquire into this and cognate subjects:

There is a growing local industry, but it has not yet attained much importance, and the bulk of the soap used—common, soft, and toilet—is imported. Great Britain controls the trade, and more than 90 per cent. of the imports come from Great Britain. In toilet soaps, France, Germany, and Holland compete to a small extent, especially in the better qualities, just as they do in the home market. It is not a question of price, but of specialties. America shows signs of becoming a more important competitor in all classes. A well-known American firm is making a serious bid for the trade, and has met with some success. Natal and the Transvaal import some soap from Quilimane and Mozambique, but it is not an increasing business, and does not materially interfere with British makers, in spite of the lower railway freights it has hitherto enjoyed as South African produce. Most of the best known British brands are extensively advertised in South Africa. The trade appears to be well worked by home manufacturers.

Imports of soap in 1902 through Cape and Natal ports:

From Great Britain	£295,769
From the United States	9,755
From Holland	2,637
From Germany	2,201
From Quilimane	3,308

The British figures, no doubt, include some Continental manufactures.

An Engineer's Reply.

Factory Inspector D. H. McAbee, of Indiana, received the following report from an engineer, who was asked to comply with the boiler inspection laws of the state:

"This is to certify that I have this day inspected—Unknown—steam boiler, manufactured by—Unknown—and the same has been tested by—Unknown— and that the following is a full and true statement of conditions found by me:

"Kind of boiler?—Unknown.

"Tensile strength, when known?—Unknown.

"Seams, lap or butt?—Unknown.

"How many rows of rivets?—Never counted them; why?

"Heads of boilers, cast or wrought?—Unknown. I wasn't there when it was made.

"Bursting pressure?—Unknown. It never bursted.

"Internal or external furnace?—Unknown.

"Are boilers properly braced or stayed?—Unknown.

"Any loose braces?—Suppose braces were loose, what of it?

"Are there any stop valves between supply valves and boiler?—Why should such be necessary?

"Any scale or deposit in the boiler?—Yes, some, of course. Impossible to keep a boiler perfectly clean.

"Explanations or remarks.—Please give us some idea as to what you mean by these questions and what they are for, and maybe we can tell you something about what you want."—Iron Age.

The Prussian government has obtained permission to operate a state potash mine at Bleicherode, in the district of Sanferhausen, Hartz mountains, Saxony. The government recently obtained the mining rights to a tract of land 23,552,317 square feet in area.

The Cottonseed Industry.

(By Edwin Lehman Johnson in Oil, Paint and Drug Reporter.)

There is going to be less discord, less ruinous rivalry and competition, more of harmony and pulling together among oil mill men than heretofore. I think the growth in membership and importance of the Interstate Crushers' Association, especially the recent most successful meeting at Memphis last May, shows this clearly.

Although the combination or trust principle which has done so much for industries which were in a bad way, does not seem to be applicable to the cottonseed industry, and although the two notable trials of it in the history of the trade, while temporarily beneficial, only served finally to overestimate the erection of oil mills, nevertheless I feel that all the benefits of such combination without their evil effects can be obtained from general membership in this Interstate Crushers' Association and still further increasing its importance and field of work. Certainly every oil mill in the United States ought to be a member of this association. I shall deal with this subject further on in this letter.

My second reason for believing that better times are in store for the cottonseed industry is my conviction that we are going to have next season and years following higher values for cottonseed products and a larger margin in manufacturing.

Beginning with no cottonsed products to market at all some forty years ago, we have been by leaps and bounds annually increasing the output of cottonseed products until now the entire available seed crop, except a very small percentage, is annually crushed. Under old conditions cottonseed products could not help selling at far less than their intrinsic value. But one or two years more will see an end to this and the annual production of cottonseed products will be stationary, simply because we will then be crushing all the seed that there is to crush, while the demand will continue to increase as formerly. As the population and growth of the civilized world is constantly increasing with the constantly increasing demand for feed stuffs and fertilizers, this growing demand no longer being met by a growing production will of itself raise the price of cottonseed products to their intrinsic value compared with similar feed stuffs and fertilizers instead of remaining as now far below them in price.

PRICE OF COTTONSEED HELD DOWN.

If the oil mills insist on raising their raw products cottonseed to a price in proportion, there will, of course, be no greater manufacturing margin and no greater profit. There is no need of this, and this is where the Interstate Crushers' Association should come in and exert its influence, if not its authority, as well. Cottonseed are and have been not only high enough, but too high of late years for any reasonable manufacturing profit. The oil mills alone have made cottonseed worth what they are and the oil mills need, have earned, and richly deserve a larger manufacturing margin. The planters are already having their good times. It is the oil mills' turn next.

Fifteen to $18 per ton seems to be necessary to bring out the seed. There is absolutely no need, nor is it in the public interest to raise the price above these figures until we have reached an entirely new and permanently higher plane of values for cottonseed products. It is absurd that the oil mills should pay as they have been doing for a ton of cottonseed, more than three-fourths of the value of the manufactured products from that ton. No other industry of similar proportion does as much for the owners of the raw product.

A combination to put down the price of cottonseed or to maintain it at a fixed price per ton, would probably be criminal under the laws of the Southern States. An agreement enforced by an association not to pay more than a certain definite fixed and fair proportion of the value of the products of a ton of seed for a ton of seed would not only not be criminal under any of these laws, but would be in the public interest and would insure a fair manufacturing margin at all times for the mills in existence without offering any inducement to the needless multiplication of unnecessary mills. This is a point of the utmost importance.

My third reason for believing that there are better times ahead in the cottonseed industry is that there are from four to five dollars per ton of value in the cottonseed, even at present prices of products, which the best of the old methods will not get out, but which recent inventions make possible.

Taking the average analysis of cottonseed from North Carolina to Texas, we will find that the average ton of seed contains 150 pounds of lint, 50 gallons of oil and 900 pounds of cake or meal. The average results obtained by the oil mills are 32½ pounds of lint, 40 gallons of oil, 800 pounds of cake and 800 pounds of hulls. Here are over 100 pounds of lint, 10 gallons of oil, and 100 pounds of cake or meal available in the seed which are not obtained by the oil mill and which are certainly worth between $4 and $5 per ton. We are going to get out these extra values in the near future. We are not going to leave so much meats and oil in the hulls, nor are we going to continue always to sell two-fifths of the weight of our cottonseed, which we buy at $15 to $18 per ton, as crude hulls at $3 to $5 per ton.

My fourth reason for believing in good times ahead is that the recent inventions just referred to make it possible, as it has not been heretofore, to run our hydraulic presses on 30 minutes time instead of 20 minutes time, and get enough more oil to make it worth while.

This will give each oil mill half as long a crush again as it now has, and will make it less necessary than before to rush into the market and bull the price of seed to get enough to keep from shutting down. This slower and more thorough pressing of the seed by the aid of the new invention will furnish more work and profitable work for our oil mills, whose season of operation is now altogether too short for such expensive and elaborate plants, and it will do much to keep the price of seed down to reasonable figures.

Not only are we going to get more of the high priced products—lint, oil and cake or meal—from a ton of seed, but we are going to make these better.

The foundation for this will be better care of the seed, both before and after reaching the mill. Bad weather in seed harvesting time now causes the loss of millions of dollars from the heating of seed, which loss would not occur if the seed were received sound and kept sound. We know little of the cause of the heating of seed, except that moisture contributes to it, and we know little of the cure for it except that airing and drying checks it. The last crushers' convention appointed a committee, of which the writer is chairman, to confer with the new United States Government Department of Commerce with a view to inquiring thoroughly into the cause and cure of the heating of cottonseed. The writer requests all oil manufacturers to send him at their earliest convenience their estimates of the damage which results in bad years from this cause, in order that he may make as effective a presentation of this matter as possible to the government authority. Its importance cannot be overestimated.

Even with sound seed there is a great variation in character of cake and meal, which is exceedingly embarrassing to buyers and causes great losses in the feeding of cattle. In view of the numerous grades of cotton and cotton oil and the great help these grades are to the buyers in selecting what they want, it is clear that only two grades, prime and off, of cottonseed meal are not enough for either present trade or manufacturing conditions, and that the time has come when we should no longer turn out cottonseed meal just as it happened to run through the mill, but should vary our methods of manufacture and manipulation so as to make the meal conform to the object for which it is to be used. For instance, what is needed for the mixers of feed stuffs should be of high protein content, what is needed for fertilizer makers should be of high ammonia content, and what is needed for the feeders of straight meal should be of lower protein and fat content, so that it may be fed more safely, with less waste and in greater quantities than at present. The market for cottonseed meal is capable of a very great development if the meal itself is made more uniform and with reference to the uses to which it is to be put.

RECENT AND NEW INVENTIONS.

In such an undeveloped field as the cottonseed, there is much work for the inventor yet to do, and the general prejudice of oil mills against invention and patents is very unfortunate. Instead of seeking to evade or nullify good inventions or patents in our industry we ought to do our utmost to uphold and support them, so as to encourage further invention and progress. It is far better to work under the protection of a patent than to seek to evade it. If the validity of the oleomargarine patents had been maintained, and the inventors had wisely directed and controlled the new industry, there would never have been the opposition and prejudice against this article to-day and the oil mills would have had a much better and wider market for their finer grades of oil. Recent inventions and those yet to come are going to help us greatly to increase the profits of the oil mills if we cordially welcome them and properly apply them to our work.

Oil manufacturers are going to study the underlying principles of cottonseed, its composition and possibilities, as well as the effect of different manufacturing operations upon the products, nor are they going to continue to sell such an important product as cottonseed meal without knowing exactly what it contains and how valuable it is. Instead of being content to run "crude" mills, they are going to make this industry as scientific as the manufacture of steel, molasses, sugar and like products. Not every Tom, Dick and Harry can then build a new oil mill and hire some mechanic of none or little experience to run it profitably. Ignorance in the future is going to be very costly. Knowledge alone is going to be profitable; the work of the chemist is going to be in great demand, and manufacturers themselves are going to study so that they can utilize the chemist's work in manufacture.

No one who has followed the ins and outs of this industry for twenty years as the writer has done, can help believing that there is a good time coming to the oil mills. We are not, however, to sit down idly and wait for it, but to set to work and bring it about. Our general method of manufacture in the United States, which consists in separating hulls and kernels, cooking the kernels free of hulls and pressing out the oil through hydraulic presses, is all right and makes the best quality of products.

What we need is not to change, but to improve on these operations, utilizing the latest inventions and discoveries along these lines. We do not need to pay less for seed, but we should certainly not pay more for it. Content with what seed we can get, we should take care of it, work it carefuly, slowly and get out of every ton all there is in it. Those who do this will find their good times close at hand.

It is my hope that there will be better times for all

engaged in our industry, but the best times are going to be for those who are widest awake, most energetic and enterprising, who are not afraid of new things which have already "made good," and who beware of foolish experiments which from the very nature of the cotton-seed had no hope of success from the beginning.

A Story From Paris.

Some time ago the Paris "Temps" published the following very instructive story:

A young girl, attracting all the more attention in Paris by her magnificent growth of hair, as the latter had a beautiful golden blonde color, was accosted in the street by a man who persuaded her to sell him her hair for the price of 1,000 francs (say $200). The girl, who, beyond her golden hair, possessed little enough gold, assented and went to the stranger's studio. Here she was required to undo her hair and the latter was arranged to surround her like a royal mantle. In this position she was photographed by the "strange gentleman," who thereupon cut the hair to about half its natural length, and then photographed her a second time. Finally he took a hair clipper and removed the hair until the poor girl was bald; then he took a third picture.

The girl cried pitifully when she saw herself in a mirror in the "studio," but the stranger pressed twenty dollars into her hand—instead of the promised two hundred—and invited her to leave.

Swindled of both beauty and the promised compensation, the deluded victim went to the nearest police commissioner to tell her story. An officer sent to the noble stranger's studio returned soon after with the three negatives; the one taken last, showing the bald head, was marked: "Before Using"; the one with the hair at half length was marked: "After 3 Months," and the one first taken, showing the hair in all its natural glory, bore the inscription: "After 6 Months."

Of course, the stranger was the manufacturer of a hair wash of some kind, and the pictures were intended to serve for advertising purposes. Owing to the exertions of the police commissioner the stranger finally was induced to pay the poor girl at least a hundred dollars, although the proper thing would have been to have him arrested, the "Temps" thinks.

(Stories of this order, when they appear in European papers, are almost invariably credited to America. Why in this instance an exception is made we cannot conjecture, unless it be that—it is true.)

Among this year's calendars received, the one from the American Chemical Co., of Cincinnati, is particularly neat and ornamental. Thanks.

Export Perfumery Trade.

La Perfumerie has been giving, in recent issues, some very interesting notes on the world's perfumery trade, and we give here extracts of some of the most interesting items.—(Oils, Colours and Drysalteries.)

ROUMANIA.—Common qualities cannot stand the customs duties, so that only fine and demi-fine goods are imported. Soaps made in the country are very poor, and the best customers buy nothing but foreign articles, chiefly French.

Bucharest.—Articles are sold with the makers' label, rarely with that of seller. Purchases are made direct by leading firms.

Kustenji.—Only cheap goods are imported, and consumption is not great. Purchases are generally made through commission agents at Bucharest and Galatz; also at Kustenji Galatz. A great quantity of fine and demi-fine articles are imported from France, and sold with makers' labels.

Jassy.—During the last three years the average annual imports were: France, 60,000 kilos of perfumery and soaps valued at 318,000 francs; Germany, 32,000 kilos, 176,000 francs; Austria-Hungary, 12,000 kilos, 62,000 francs. French articles are of fine quality; those from Germany and Austria inferior kinds. Purchases are made through agents.

RUSSIA.—The Russians prefer foreign perfumery, and Russian commercial travelers often act as agents for foreign merchants. Imports are of fine quality, inferior articles being barred by custom duties. Local manufacture is limited to production of cheap soap. The most important manufacturing centers are St. Petersburg, Moscow, Warsaw, Riga.

St. Petersburg.—Extracts are usually imported in estagnons (tinned copper receptacles), except the best Paris brands, which are in bottles. Soaps are boxed in 3's, 6's and 12's. Exporters should have their goods sold with their own labels and bottles. Purchases are made by agents.

Baku.—Soap is sold here in boxes of three cakes each; perfumes in boxes of three bottles, weighing 16.9 to 28 drs. avoir.; eau de cologne in bottles of 28 drs. to about 14 ozs.

Batum.—Orders are occasionally given to travelers, though wholesale dealers generally buy from the factory.

Bielaja, Tserkov, Kiev.—Foreign goods find poor markets at Bielaja-Tserkov. The center of supplies for the country is Kiev, where French and English perfumery is on sale at some first-class shops. Kiev is the entrepôt of a large part of the government of Volhyma, Podolia, Chernigov and Poltava.

Kharkov.—The value of annual imports is estimated at £1,600. The articles are chiefly of fine quality. Sales

are injured by the high profits of retail dealers. Purchases are made through agents and travelers.

Moscow.—Fine quality of perfumes. The bottles most in demand weigh 1 oz. and 2 oz. Soap boxes contain three, six and twelve cakes. Nearly all business is done by representatives or travelers; commission agents do nothing.

Vovorossisk.—Slight trade in fancy articles. Buyers generally apply to representatives in the market.

Odessa.—Approximate value of annual imports is £20,000. Purchases through commission agents.

Poti.—Small trade in fine quality perfumery. Purchases buy in large Russian towns. It might be difficult to find an agent in the country owing to the small demand. Chemists and druggists alone sell good perfumery; all the other retail dealers have inferior qualities.

Riga.—The average annual imports are valued at 57,000 roubles; chiefly French of fine quality.

Warsaw.—Foreign imports are of fine quality, manufacturers send travelers through Russia to canvass for orders. One or two firms have a representative at Moscow and another at Warsaw. A Berlin firm has a bottling establishment at Warsaw through which it transacts business. This system is advantageous, as weight of the bottle is not allowed for in calculating the customs duties. Some French firms tried it for a time, but had to abandon it owing to abuses.

FINLAND.—The chief imports for the year 1899 were obtained from Russia (£1,680); Sweden and Norway (£2,600); Germany (£8,040); Belgium and Holland (£500); France (£680); and England (£230). Both fine and cheap perfumery are imported. There are soap works in the Grand Duchy which manufacture common kinds. The demand for perfumery is restricted to cheap varieties. Fancy articles would sell about Christmas and the New Year if not too expensive. The Finns do not use perfumery as much as the Russians. As for the Scandinavians, they look for antiseptic qualities more than delicacy of fragrance in toilet requisites.

Helsingfors.—Soap is sold by the cake and in boxes. The first has the greatest sale and is mainly cheap. Buyers purchase from commission agents at Berlin, Lubeck and Hamburg.

Servia.—The countries which import most are, in order of importance, Austria-Hungary, Germany, France. There are no factories in the country and imports are cheap. French trade is declining before Austria and Germany; these countries supply a bad quality. They owe their success to their French style of packing and labels.

Belgrade.—Soap is sold in boxes of three and six cakes; perfumes in boxes of six and twelve bottles, and three for choice qualities. Buyers purchase through representatives in this country.

SWEDEN.—There are large perfumery works at Stockholm, and imports are very limited, and mainly of a fine quality. Cheap articles have to pay the same duty as the others. French, German, English and American products are most in demand. Latterly German brands have been much sought for.

Olive Oil and Its Substitutes.

So widely distributed an article of commerce as olive oil could hardly be expected to escape the risk of adulteration, and there are at least a dozen well-known oils that are used in varying degrees as olive oil substitutes. Amongst the leading countries of production are Italy, France, and California. The processes of manufacture are simple. In the last-named country, for example, the fruit is picked when ripe, and dried either in the sun or by means of dryers. It is then crushed in a mill and the oil extracted by a powerful press, the details of procedure varying in different mills. In some places the olives are mixed with hot water before making even the first pressing. The first oil that issues from the press is called the "virgin oil," and this constitutes the highest grade of salad oil. The pulp resulting from the first operation is put under much higher pressure to yield the second-pressing oil, which, as a rule, is mixed with the virgin oil. The pulp is now treated with hot water, and pressed again, when a third-grade oil is produced. This is used for the table, for lubricating fine machinery, and for burning. The pulp still contains oily matter which is extracted with bisulphide of carbon, and used in making castile soap and in dyeing. The oil from the several pressings is run into tanks with water, and is allowed to stand until the pulp and gummy matters settle. The oil is carefully drawn off, filtered, and stored in a cool, dark place until ready for bottling, as olive oil becomes rancid very quickly if exposed to light and heat. It was reported in 1897 that there were in California 2,500,000 olive trees, capable of producing, besides dried and pickled olives, 2,000,000 gallons of oil annually. This quantity is, however, greatly in excess of the present production, owing to the circumstance that both the French and Italian oils can be imported cheaper than the actual cost of production of the Californian article. Still, the figures quoted are of interest, as showing that California is capable of furnishing the entire quantity of olive oil consumed in the United States. In 1900 that country imported 649,423 gallons from Italy, 275,461 gallons from France, and 42,818 gallons from all other sources, the total being 967,702 gallons. These imports pay a duty of 50 cents per gallon. The Italian oil is much cheaper than the French product. The average difference in price is about 60 cents per gallon, and is partly due to the packages in which the oils are shipped. Another reason for the lower average price of

the Italian oils is that a large proportion of low-grade oil is imported from Italy. The priee of high-grade oils from both countries is about the same. Italian oils are valued at an average of about $1 per gallon, and French oils at $1.60; adding 50 cents per gallon for duty, their values become $1.50 and $2.10, respectively. The cost of produetion of Californian oil is estimated at $1.88 per gallon, and the addition of 50 cents per gallon for bottling brings the actual cost of preparing these oils for market up to $2.38. The Californian oils retail at a slightly higher price than the French, and the latter at a somewhat higher figure than the Italian oils. As regards adulterated oils, it appears that price is not always, or even generally, an indieation of purity. The Californian oils show very little variation in price, as all this oil is of highest quality. In the case of both French and Italian oils some very low grades are placed on the markets. The best grades of all three varieties of oil being about the same retail price. Olive oil substitutes include the oils of cotton-seed, pea-nut, sesame, maize, mustard-seed, rape-seed, and colza, sunflower, poppy-seed, and lard. Cotton-seed oil is the chief adulterant of, and substitute for, olive oil in America. It is used to a large etxent under the name of salad oil, but is also frequently sold as olive oil, with which it is extensively mixed. The well-refined oil has a pleasant though characteristic taste and odor, and is much less liable to become rancid than are olive and other oils used in the preparation of salads. The cotton-seed oil, sold for salads is refined in part by the use of alkali, and this treatment removes all free fatty acids. Pea-nut oil is probably used as an adulterant of olive oil more extensively in Europe than in America, where cotton-seed oil is so common. This oil has a pleasant, nutty flavor and makes a good salad oil, for which purpose it is largely used in Europe under its own name. Many of the ordinary chemical tests fail to distinguish this oil from olive oil, with which therefore considerable quantities of pea-nut oil might be mixed without being detected. Sesame oil, like pea-nut oil, has a pleasant flavor, and is well adapted to the adulteration of olive oil. Maize oil is produced in large quantities in the United States, and, owing to its cheapness, may find use as a substitute for olive oil. This product, which is a semi-drying oil similar to cotton-seed oil, has so far been but little used for salad purposes. It has the flavor and odor characteristic of maize, and these qualities aid in its detection. Mustard-seed oil belongs to the rape-seed oil group, and differs but slightly in character from rape-seed oil. It is seldom, if ever, used as an adulterant of olive oils, though it is frequently added to rape oil, and this may find its way into olive oil. Means of detecting it in small quantities are as unsatisfactory as those for rape oil. The presence of sulphur compounds in the oils of cruciferous seeds, such as mustard, rape, and colza, affords, however, a means for the identification of these oils. If the latter are saponified with alcoholic potash and stirred with a silver spoon, the metal will become blackened by the formation of sulphide. Rape-seed and colza oils are less well adapted than some that have been named as substitutes for olive oil, owing to their acid taste, even when well refined. Sunflower oil is mild in taste and of pleasant odor, and the cold drawn oil is stated to be used in some parts of Europe for culinary purposes. The eharacteristics of this oil are so widely different from those of olive oil that additions of even relatively small quantities to olive oil would easily be detected. The oil of poppy-seed, though used in Europe as a salad oil and for culinary purposes, and sometimes as an adulterant for olive oil, is not used in America to any extent, either as a salad or a cooking oil, and it is doubtful if it is ever employed as an olive oil adulterant. Lard oil is so manufactured that it remains liquid at ordinary temperatures, and when well refined is entirely free from the taste and odor of lard. When heated, however, it develops this odor, which may serve as a means of detecting lard oil. Generally speaking, it may be said that in the examination of olive oils for adulteration, a complete analysis is usually necessary to reveal the real nature of the oil. In cases of gross adulteration the qualitative tests, specifie gravity, and index of refraction will often show the nature of the adulterant and the extent to which it is employed. The adulteration of foreign oils imported into the United States is practiced on a much smaller seale than is popularly supposed. On the other hand, oils bought upon the market, bearing labels indicating a foreign origin, were found to be quite extensively adulterated with cotton-seed oil. The inference is that these adulterated oils, bearing foreign labels, are labelled and modified after leaving the port of entry, neither the domestic nor the foreign producer being responsible for them. This practice is injurious to the interests alike of the manufacturer and the consumer of the Californian, French, and Italian pure olive oils.

How It Is Generally Done.

"Let us form a stock eompany for the purpose of developing a soap mine in the vicinity of Willow Hill. Soap is a staple article and will always find a ready market; and even if the price is low, the cost of mining it would be so small that it could be placed on the market at an immense profit. This fact is certainly plain to anyone. All that is necessary is to form a company. It will require some money to incorporate it and pay for advertising, and especially for printing certificates of stock. The company should have a capital stock of, say, twenty millions, and they should advertise it at from two to five cents per share of stock whose par value is one dol-

lar. Then one-half of the two or five cents would go to the promoter or promoters, and the other half into the pockets of the company. Should the stock become exhausted at any time, it would be easy to print more and continue to do so as long as any member of the company cares to receive more money. I suppose there are limits to the requirements of the most avaricious.

"You may criticise this proposition by saying that there is no soap mine in this vicinity? How do you know there is none? There are vast possibilities, the depths have not been explored; and in the search, instead of soap we might strike diamonds. No matter if we sell all the stock a good printing plant can furnish the strike will be rich enough for us.

"And so far as knowledge of the mine is concerned, if we knew where it was we could go to work, develop the mine and get our money that way. But as we know nothing about it we must follow the example of oil, mining and other stock company schemes. They know no more than we do. They obtain an option on a square rod or two of land, bore a hole a few inches deep with an auger, call it an oil or gas well and sell stock to develop it. The gold mines are about the same thing. If any of us had a large quantity of gold upon his premises and knew it, do you suppose he would be looking for people to share the find with him and guarantee them thousands of dollars for every one they invest? That is what is done in mining schemes every day, but a guarantee with nothing to back it is worthless.

"It all depends on the promoter. He is the slick duck who does the business. Of course, he must have a liberal commission; it is no use to ask him to take any stock. He knows what the stock is and must have cold cash. A man so innocent that he could be induced to risk any investment would be too innocent to make a success as a promoter. He must be in on the ground floor and know all about it.

"This is a great opportunity to acquire a fortune, and it will actually be of benefit to the country; it will be the means of investing their money in Western mines and oil wells and other 'get-rich-quick' schemes located so far away that it can never get back to them will be benefited by investing with us. We will get the money and spend it here. It will come easy and we will spend it liberally, so it will naturally flow back to its origin, and perhaps come back to us for more stock, as many bite a number of times at these fascinating propositions. And, by the way, this is the greatest idea of all. When there is money to throw away, by giving it to me here it would soon get into circulation. It is a positive fact that all I ever did get in any manner was soon circulating, and thus they would have another chance at it.

"If I meet sufficient encouragement in this business proposition, you will hear from me again."—Exchange.

A New Combined Palm Oil.

MM. Hallet and Spinnael have originated a process for obtaining oil from the fruit of the palm tree (Elaeis Guinaeensis), consisting essentially in treating both the fibrous pulp of the fruit and the kernel which it contains, so that the oil may proceed at the some time from both.

The fruit of the palm tree, from which this oil is extracted, is of the size of an ordinary hazel nut, and has a fibrous pulp enveloping a hard shell containing the kernel.

Hitherto the fibrous kernel has been treated separated from the pulp, in order to extract the oil called palm oil, and the oil from the kernel called palm kernel oil, which are principally employed in the manufacture of soap and stearine.

The fibrous pulp, which contains about 75 per cent. in weight of oil, is ordinarily treated on the spot by the natives by means of rudimentary processes and apparatus, which do not permit of obtaining more than about a third of the oil contained.

According to the process generally employed the entire fruit is boiled in water. Afterward it is beaten up with a wooden pestle in a mortar, in order to separate the pulp from the kernel, and the whole is then boiled again and the supernatant oil collected. The mixture is drawn off, the kernels separated by hand and another part of the oil extracted by pressing the detached pulp with the hand in a cloth or network. The shell is then broken by hand between two stones or otherwise, and the kernels taken out, dried and forwarded to industrial centers to be treated by means of improved processes and apparatus. They contain about 33 per cent. in weight of oil, called palm kernel oil.

The oil extracted from the kernels is white, slightly greenish, while the palm oil extracted from the pulp by the natives is orange red, and should be bleached previously to its employment in soapmaking.

The entire fruit will not bear a long voyage without spoiling, and, as to the pulp, there is no practical method of separating the kernel while preserving its percentage in oil, and it is not transportable in crates on account of its change in the air, and the transportation in casks is too costly. On the other hand, the mechanical processes and apparatus employed until lately for the extraction of the oil were too complicated to be used in the countries where the fruit is gathered.

The experiments which have been conducted for the purpose of applying in these countries the new processes of direct extraction of the palm oil with solvents without the employment of a press have led to the discovery of the fact that by submitting the entire fruit to treatment, without separating the kernel from the fibrous pulp, a new oil is obtained, white and slightly yellowish in color,

which may be employed in stearine and soap manufacture without any previous preparation.

The process consists in preserving the fruit, sheltered from the air in silos, until the time when a special fermentation is observed, which is peculiar to it, and increases the yield of oil by some 5 or 6 per cent. The entire fruit is then submitted to appropriate mechanical grinders, and the product is treated with solvents, in accordance with processes already in use.

The apparatus necessary for this treatment being capable of employment without difficulty in the localities where the fruit is collected, the mode of treatment mentioned presents the triple advantage of considerably increasing the yield in oil, of obtaining an oil free from water and from impurities, and of reducing the expense of transportation to the point of consumption.

Compared with palm and palm kernel oils, extracted separately from the pulp and the kernel, the new oil, extracted from the entire fruit, has the following distinct characteristics:

In a temperate climate, it has the consistency of ordinary table butter, while the palm and the palm kernel oils are of solid consistency. Its fusing point is from 28 to 30 degrees C.; the fusing point of the fatty acids is from 43 to 44 degrees C. The yield in glycerine is 8 to 9 per cent. and in fatty acids 95 to 96 per cent.

The fusing point of palm oil varies from 22 to 43 degrees C., according to its source; and the fusing point of the fatty acids from 40 to 48 degrees C.; its yield in glycerine is from 9 to 10 per cent., and its yield in fatty acids from 96 to 97 per cent.

The fusing point of palm kernel oil is 25 to 26 degrees C., and the fusing point of its fatty acids from 26 to 27 degrees C. The yield in glycerine is 11 to 12 per cent. and the yield in fatty acids 91 to 92 per cent.

The excess of the yield in each case proceeds from the water combined.—La Revue de Chimie Industrielle, translated by the Paint and Drug Rep.

Society of Public Analysis, England.

From the minutes of a recent meeting of this society, as published in the British and Colonial Druggist, we extract the following notes:

THE CHARACTERISTICS OF SOME ALMOND AND ALLIED OILS

By J. Lewkowitsch, Ph. D., F. I. C.

The author, in his customary iconoclastic manner, proceeded to show that the ordinary chemical and physical constants of almond, apricot and peach kernel oils cannot serve to distinguish between them with certainty, and that recourse must be had to color tests. With a mixture of sulphuric acid, nitric acid and water in equal parts, almond oil should give no color, while both the kernel oils produce a red coloration. Tested with an ethereal solution of phloroglucinol, followed by nitric acid of specific gravity 1.45, peach and almond kernel oils both afford a bright red, and almond oil no color under most circumstances, but with certain oils of known purity even these tests fail, and a very slight reaction only is obtained with an almond oil, mixed with 25 per cent. of one of the others.

Mr. Brewis stated that there was a considerable difference in the market value between almond oil on the one hand and peach or apricot on the other, the former being much the most costly; there was but little peach kernel oil to be met with, much of what was sold under that name being apricot kernel oil.

Mr. Allen suggested that as there was evidently so little difference between the three oils they should be sold under a common, but appropriate designation, instead of selling one for the other as at present.

NOTE ON THE EXAMINATION OF SPERM OIL.

By L. Myddleton Nash, F. I. C.

Since the liquid wax alcohols which constitute about 40 per cent. of this oil have the property, when dissolved in strong alcohol, of enormously increasing the solubility of any mineral oil that might be present as an adulterant, it is essential that too much reliance be not placed on ready solubility of the unsaponified portion of the oil in alcohol as a criterion of purity. A mixture of equal parts of the sperm alcohols and ethyl alcohol dissolves mineral oil in any proportion.

An Artificial Substitute for Pumice.

Artificial pumice is made in quantities in Bietigheim in the valley of the Enz in Germany, which is said to be a valuable substitute for the genuine stone. It is made from ground sandstone and clay, and there are ten kinds, differing from each other in regard to hardness and grain as follows: (1) A hard and a soft kind, with coarse grain, particularly useful in the leather, wax-cloth, felt, and wood industries; (2) a hard and soft kind, with medium coarse grain, suited to stucco workers and sculptors, and particularly useful for polishing wood before it is painted; (3) a soft, fine-grained stone for the white and dry polish of wood and for tin goods; (4) one of medium hardness, with fine grain, for giving the wood a surface for an oil polish; (5) a hard, fine-grained one for working metals and stones, especially lithographic stones; and finally pumice stones with a very fine grain. These artificial stones are used in pretty much the same way as those of volcanic origin. For giving a smooth surface to wood, a dry stone is applied, but to give it a fine polish the stone is dipped in oil. For fine work no coarse-grained and for coarse work no fine-grained stones are used. The unreliability of pumice, both in grain and hardness, variations being noted even in the same piece, suggested the idea of replacing it with the artificial product.

Oil of Rosemary.

Pancoast and Graham give in the American Journal of Pharmacy the results of examination of fifteen samples of Dalmatian and French oils of rosemary. The Dalmation, otherwise called Italian or Trieste, oil is produced on the islands of the Dalmatian coast, principally Lesina. French oil is distilled in the south of France, and is dearer than Dalmatian. Gildemeister and Hoffman give the specific gravity at 15° as 0.900 to 0.920, and the optical rotation +1.45° to +5°. Schimmel gives a higher, 0.915 and the optical rotation +1° to +4° for Dalmatian, and +1° to +11° for French. The present authors say nothing as to the purity of the samples submitted to them, only giving factors. Two samples of Dalmatian had the specific gravity of 0.895 and 0.897, the rotation of the latter being +30.59°. The others were within the above-mentioned limits. In the case of the French oils six specimens were under the lower specific gravity limit; thus one oil from flowers was specific gravity 0.888, and yielded 8.3 per cent. of bornyl acetate (the highest observed), and +5.45° optical rotation. Another sample was 0.884, 3.4, and +18.30, the third 0.888, 4.9, and +18.30.

Rose Geranium Oil.

In the second and third parts of the bulletin on the adulteration of drugs and chemicals, which has just been completed by Lyman K. Kebler, chief of the drug laboratory of the agricultural department, rose geranium and its substitutes are discussed. Mr. Kebler says:

"In spite of the great advance made in the chemistry of essential oils during the past decade ample evidence can readily be collected to show that this is as yet a fertile field for the adulterator. Many kinds of manipulators are found, from the tyro who endeavors to palm off oil of French turpentine for oil of rue, and the distiller who sprinkles his rose leaves with geranium oil before distilling, to the chemist who is an abettor to the use of acetin and glycerine in volatile oils for the purpose of increasing the apparent content of ester and alcohol, respectively.

"By referring to the various price lists it will be found that the quotations for the geranium oils vary from $12 per pound for the Spanish to $2.25 for the Turkish oil; and ginger-grass oil, which is conceded to be only another name for an inferior Turkish oil, sometimes highly adulterated, quoted at $1.10 per pound. Certainly here seems to be a great opportunity for the clever manipulator."

Mr. Kebler points out the close similarity of rose geranium oils, calling attention to the ease with which they can be combined and the difficulty of detecting such combinations.

PATENTS AND TRADE-MARKS.

The following list of recent Patents and Trade-Marks is reported by W. G. Henderson, Solicitor of American and Foreign Patents and Trade-Marks, Norris Bldg,, Washington, D. C. A copy of any of the following will be furnished by him for 15 cents.

TRADE-MARKS.

41,754. Soap and Soap Powder. Davis & Marston, New York, N. Y. The word "Cricket," or the representation of a cricket.

41,834. Perfumes, Toilet Waters and Sachet Powders. Ladd & Coffin, New York, N. Y. The words "Cake Walk."

41,835. Perfumes, Toilet Waters and Sachet Powders. Ladd & Coffin, New York, N. Y. The word "Edeol."

41,836. Toilet Soap. Frank M. Coulter, Los Angeles, Cal. The representation of a lemon.

41,837. Soap. Puck Manufacturing Company, Des Moines, Iowa. The word "Puck's," associated with a representation of the character known as "Puck," the figure being represented as holding in one hand a hat and in the other a cake of soap having the word "Puck" thereon.

41,838. Laundary Soap. F. P. Garrettson & Co., New York, N. Y. The word "Aquidneck."

LABELS.

10,642. Title, "Soapex." (For washing compound.) W. R. Hollingshead Company, New York, N. Y.

10,646. Title, "Klenzene." (For washing powder.) Jarrell & Turner, Easton, Md.

PRINTS.

882. Title, "Hasn't Scratched Yet." (For scouring soap.) The Bon-Ami Co., New York, N. Y.

AROUND THE SOAP FACTORIES.

News items sent us by our readers will find prompt attention in this column

The annual meeting of the stockholders of the Connecticut Fat Rendering Company was held on January 14, when action was taken on the increase of capital to $50,000.

Hartford, Conn., Jan. 9.—Henry S. Goslee, of Glastonbury, was appointed receiver of the Erickson Soap Company on Smith street, on an application made to the superior court by Sidney E. Clarke, counsel for Louis Erickson, former president of the company. Daniel A. Markham was accepted as surety in the sum of $500 for the receiver. Attorney John Robinson, representing some of the parties interested, said the money to be handled by the receiver would probably not exceed $700. The former president of the company and the directors had a disagreement, Mr. Erickson being deposed and

suit commenced against him for alleged breach of contract. Mr. Erickson then commenced suit to wind up the business. Henry W. Harris and Alfred B. Wilson were appointed appraisers. Judge Case refused to issue order of sale until the appraisers have valued the property.

The annual meeting of the Manufacturing Perfumers' Association of the United States has been called for February 3 and 4 in New York City. Following the regular business meeting there will be a dinner and a vaudeville performance on February 4. The entertainment committee includes F. E. Watermeyer, representing Fritzsche Bros.; O. G. Euler, of Euler & Robeson, and Richard A. Hudnut.

Incorporated: Lautz Bros., Buffalo, N. Y., capital $1,000,000. Frederick C. M. Lautz, Carl A. Lautz and O. J. Lautz will manufacture soap and glycerine.

Peddicord & Hess have purchased the Ludlow Soap Factory in Washington C. H., Ohio, and will enlarge and operate the plant.

Marinette, Wis., Jan. 15—The Minnesota Soap Company of St. Paul has purchased the factory of the Marinette Soap Company in this city, and will operate it for a time. The consideration was $5,000. The local company has been in operation for a number of years and has a large factory.

One of the best advertised soap factories just now is the Home Soap Co., of Millbury, Mass., whose erection of a new factory is opposed by near-by residents. Pending legal steps the construction goes merrily on and the amount of free advertising which the company is getting out of the movements of the opposition is something to be envied. Residents of the vicinity claim that in granting a license for the location of the factory, the Board of Health committed an offense which, if it did not smell to heaven now, would do so as soon as the factory will start operations. At the hearing before the Board of Health there were present people from Millbury, Millbury Junction, and even a delegation from Worcester. It seems a pity the factory was not quite ready to distribute samples.

General Appraiser I. F. Fischer handed down a decision sustaining the protest of the American Express Company to the Board of United States General Appraisers against the classificatien of certain merchandise by the collector of customs.

The merchandise consissted of soap pencils and was assessed for duty at 35 per cent. ad valorem under paragraph 208 of the tariff act, as manufactures of wood. The importers claimed the pencils dutiable at 20 per cent. under section 6 of the act, as unenumerated articles. The testimony before the board showed that the pencils were composed in part of wood and part of soap, the chief value being of soap. Mr. Fischer held that as there was no specific duty on soap the merchandise should come under section 6.

Incorporated: Crescent Soap Company, of New York City; capital, $5,000. Directors, H. P. Wallenstein and Julius Loeser, of New York City, and C. Archibald Keller, of Paterson, N. J.

Kaiser & Ziegerufass have completed their packing and soap plant in Winona, Minn.

The Tripoline Manufacturing Company, at Beaumont, Texas, has been incorporated; object, to manufacture scouring soap. Capital $500,000. President, E. H. Carroll; vice-presidents, Walter Crawford, George W. Carroll; treasurer, J. L. Cunningham; secretary, Lewis H. Scurlock.

The Auburn Soap & Chemical Company, of Auburn, N. Y., has certified to the secretary of state that one-half or its capital of $10,000 has been paid in, $4,000 in cash and $1,000 in property.

Pittsfield, Mass., is now proud in the possession of a soap factory, promoted by the Lenox Sprayer & Chemical Co. The officials of the new enterprise are: President, Frank E. Pierson; vice-president, Edward H. Bridgman; treasurer and manager, Howard G. Miller. These, with Charles K. Ferry, A. W. Plumb and Frank Russell, comprise the stockholders and board of directors.

The real estate of the Chickasaw Soap Co., of Spartanburg, S. C., as well as its machinery, materials and soap on hand, were advertised for sale to the highest bidder on January 20.

Matern Gerbig has sold his interest in the Cumberland Soap Company to his nephew, Mr. William Brechler, who will continue the business with Mr. Ernest Jahn, who was Mr. Gerbig's partner.

Pawtucket, R. I., Jan. 13.—The J. O. Draper Soap Company, which has been operating its plant on Front street for some time, has sold out to Swift & Co., and soap is no longer being manufactured at the Front street factory.

The American Chemical Co., manufacturers of soda, 640 to 646 Carr Street, and C. H. & D. R. R., Cincin-

nati, Ohio, of which W. D. Grote is the proprietor, have found it necessary, owing to increased trade, to open a branch house in St. Louis, Mo., and have leased a warehouse for a term of years in that city at North Levee and Carr Street, which is located on the Terminal R. R., with offices in the Granite Building, Room 210. B. C. Cadwell, who has been their cashier at Cincinnati, has moved to St. Louis, and is manager of that branch. This will greatly facilitate shipments for their western and southwestern trade, and will also enable them to fill spot orders. They earnestly solicit inquiries for goods in their line as mentioned in their advertisement in this issue on page 144.

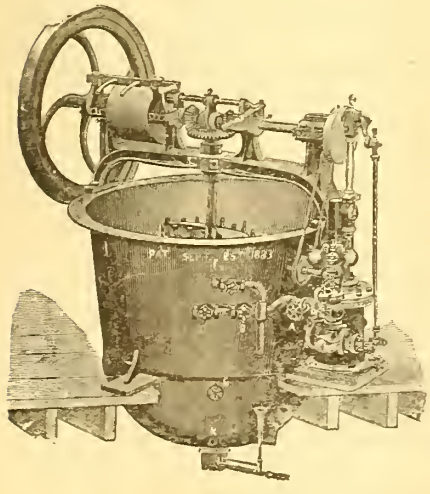
Matern Gerbig of Cumberland, Md., who has just sold out his interest in the Cumberland Soap Works, will make a visit to Germany, in company with his wife, and may possibly decide to remain there permanently.

We regret very much to learn that the factory of the Wiehle Soap Co., at Ironton, Ohio, was totally destroyed by fire on January 22, only two days after we received a letter from the firm showing them to be in the most flourishing activity. The factory is described as the oldest manufacturing industry in Ironton. The loss, estimated at $30,000, is to be ascribed largely to inadequate water mains in that part of the city.

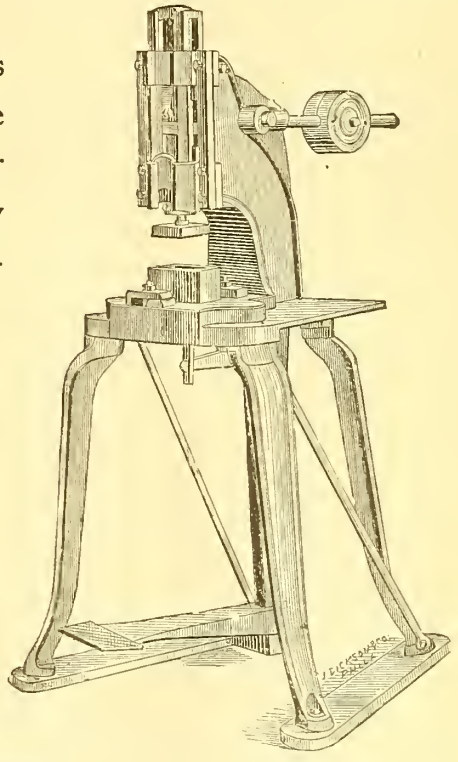
Kansas City, Mo., Jan. 15.—Work on the construction of the superstructure of building "No. 2" of the Procter & Gamble Company's soap factory in Armourdale will be begun next week. The foundations are finished and the brick and concrete piers between the walls have been almost completed. This building will have two floors. It will be 436 feet long, 100 feet wide for half the length and 50 feet for the other half. It will contain the oil refinery, lye house, glycerine works, power house and machine shops. The wall at the east end of the main building has been built high enough for the second story ceiling. The other walls are up to the second floor and the work of construction is progressing rapidly. This building will have four floors and will be 403 by 100 feet. In it will be the main soap factory, the general offices and the packing and shipping departments of the plant. The walls of the foundations are eleven feet and six inches high, a height which will be sufficient, it is believed, to insure the protection of the buildings against any overflows of the Kaw River which may come in the future.

It is planned to have the buildings finished and ready for the installation of machinery by May 1. The men

FROM the number of the herein illustrated crutchers and presses, which we are selling, many of the orders coming from concerns who already have our equipment and are enlarging, we are positive that they are giving satisfaction, which after all is the most important thing.



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H. W. DOPP CO., 1300-1310 Niagara St.,
BUFFALO, N. Y. U. S. A.

in charge of the work say that unless weather conditions are unusually bad they will have no difficulty in completing the structures before that time. Before January 1 the men were idle four days a month because of unfavorable winter weather. So far this month they have been able to work about half the time. About one hundred men are now employed.

Additions to Our Brand List.

346 Beaumont Soap Co., Mayfield, Ky
347 Lockwood Soap Co., Kansas City, Mo.
348 Oklahoma Soap & Oil Co., Oklahoma City.

Allpine Tar 337
Ammonaptha 347
Bestever 286
Big Injun 348
Bi-Naptha 348
Bleachem Soap 341
Breath of Heliotrope 337
Breath of Lilacs 337
Breath of Roses 337
Breath of Violets 337
Brightshine 106
Cream Naptha 343
Egg Tar; Lee Specialty Co., Detroit, Mich.
Gasene 106
Gasoline Laundry Soap 120
Gray-beard 348
Green Oil Soap 341
Home Pride 347
India Castile 337
La Platte 337
Lily Blossoms 337
Marigold 106
Milo 106
Monahan's Green Soap 341
Naptha Washing Powder—(for Canada) W. H. Judd & Co. Hamilton, Ont.
O. K. Tar 348
Oilex 348
Orchid Blossoms 337
Oriental Tar 337
Papoose 348
Polar Bear 106
Pow Wow 348
Queen Regent 337
Quo Vadis 337
Raven Tar 337
Rio Grande 337
Rose Blossoms 337
Snow Float 348
Summer Blossoms 337
Sunburst 106
Tar Egg 347
Tarlex 348
Top Notch 106
Transparent Brilliant 337
Transparent Rose 337
Veribest 286
Violet Blossoms 337
Yellowstone 106
Cricket Soap Powder; Davis & Marston, New York City.
Soapex; W. R. Hollingshead Co., New York City.
Aquidneck; F. P. Garrettson & Co., New York City.
Hasn't Scratched Yet; Bon Ami Co., New York City.
Red Hot 38
Bauty 32
Wheel 32
Blo-Re-Mo 333

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SUPPLEMENTARY LIST

OF THE

BRANDS OF SOAP MANUFACTURED IN THE UNITED STATES

Including also the Brands of Foreign Manufacture Registered as Trade-Marks in this Country.

NOTE: This list is compiled with the greatest possible care, but the publisher does not assume any responsibility other than to correct and to complete the list according to data obtained from official sources or furnished by the trade. Brands registered in the patent office as trade-marks or labels are given with the name of the party registering same. Brands or names marked * are those which were found to be used by more than one firm or the owner of which could not be ascertained. ☞ SEE THAT ALL YOUR BRANDS ARE ENTERED IN YOUR NAME.

3—Liberty Mfg. Co., Chicago.
344 Home Soap Co., N.Y.
345 Colnmbia Ref'g. & M'f'g Co. Ltd., New Orleans.

Abrado, Floridine Mfg. Co., New York.
A Happy Home 4
Alabama Tar 3
All-need it 286
Amazon Coco 337
Amber Rose 346
Anchor Castile 3
Angelns 54
Antelope 3
Antillia 2
Anty Up 340
Apple Blossom 337
Atoka 346

Baby Mine 8
Bannock 3
Beauty Belle 151
Beaumont's Shaving 346
Beef Oil 340
Bell's Brown 343
Bell's Naphtha 343
Ben Hur 3
Bicycle 3
Big Glycerine 3
Billy-Goat 340
Blossom Bouqnet 3
Blue Chip 340
Blue C oud 2
Blue Coco 340
Blue Family 340
Blue Monday 340
Blue Olive 340
Boast 3
Botica Francisca 3
Bouquet Chic 3
Bouquet Reverie 3
Brazilian Bath 3
Bunny—Hewitt Bros. Soap Co. Dayton, Ohio.

Calcutta Castile 337
Calnmct 3
Camille 3
Ceske Slovonsky 3
Ceske Polski 3
Chlorine 340
Cleaneasy 286
Climax Chip 54
Cloth Pin 340
Cloths Pin 340
Coa Nut 346
Coca Foam 3
Colnmbia 3
Couto & Elroy Castile
Credential Shaving Stic 6
Crown Princess 337
Crystal Honey 346
Crystal Snlphnr 3
Crystal Palace 3
Crystal Transparent Tar 3
" " Carbolic 3
Cuban Rose 3
Cuta Alba 3
Cultoderma Medicated 3
Cycle 3

Dactylis 11
Dermicura 327
Diadem 3
Drnggist's Transparent 3
Dr. Allens Medicated 3
Durango Best, Dnrango (Colo.) Soap Co.

Elk's Bouqnet 346
Empress Eugenie 115
Empire Geraninm 337
Eucryl Eucryl Ltd., Hull, England.
Eureka 3
Evergreen 286
Expert 286

Facine 340
Fairbank's Primrose 2
" Scouring 2
" German Fam. 2
" Glycerine-Tar 2
" Mottled Germ'n
" Olive 2
" Navy Blue 2
Federal Family 1
Floral Feast 115
Flannel 2
Flip 345
Force, Cincinnati Soap Co., Cinciunati, Ohio.
Fragrant Honey 2
French Violette 3
Frog 340

Gem Wash. Compound, Clara Pearce, Philadelphia.
Georgia Oleine 29
Geronne Violette 3
Geyser 343
Giant 3
Gloriola 29
Glycerated Tar 346
Glycerderma 3
Golden Rose 3
Gold Seal Soap Flour 340
Goodhair, Goodhair Remedy Co., Newark, Ohio.
Green Olive Chip 340
Green Palm 340
Green Seal Chip 340
Gusher 340

Hard Maple 155
Heliotrope Blanc 3
Heliotrope Ideal 334
Helix 54
Hi Lo 96
Home Castile 3
Horse Oil Harness 340
Hots Springs Bath 3
Hy-Lo 96

Ideal Bouquet 3
Ideal Family 3
Idyllwild 54
I-Lika-U 286
Ilo-Ilo 340
Imperial Crown 3
Iroquois Maiden 115

Jack & Jill 340
Jack Pot 340
Japanese Bath 3
Jerone Bouquet 3
Jewel 2
Jns de Framboise 3

Kaska Bouqnet 346
Kazan 343
Kinola, Bell Mg. Co., St. Louis, Mo.
King Solomon's Rock Oil S. Mnross Jenkins, N. Y.

Lakeside (Scouring) 2
La Mariposa 54
Lamsuet 3
Lasco Napthol 54
Last Long 286.
La Virtho, John S. Nichols, New York.
Le Famenx 16
Le Fameux Rose de Seville 16
Le Fameux Violette de Sevill 16
Le Fameux Peau d'Espagne 16
Le Fameux Jockey Clnb 16
Lemola Toilet, Lemola Soap Co., Los Angeles, Cal.
Lemolive 54
Lemonine, E. H. Kraut, Cinciunati.
Lettuce Cream 3
Libertys London Transparent 3
Liberty's Quartette 3
Liberty's Genuine Bouquet 3
Limberine, E. A. Warren, St. Paul, Minn.
Lion 2
Lisette 3
Little Sweetheart 346
Llama 3
Long Shot 345
Lotus Bouqnet 3
Lotus Honey 3
Lotns Glycerine 3

Madeira 16
Madeira Almond Cream 16
Madeira Cucumber Cream 16
Madeira Lettuce Cream 16
Madeira Olive Cream 16
Marjorie 337
Marveline 300
Marvelo, Natioval Process Co., Rochester, N. Y.
May Field Bouquet 346
kina Skin 346
Maxine Elliott 337
Medical Lake 3
Medicated Witch Hazel 3
Mentholatum Corn Oil S. 169
Mexicano 54
Michigan Family 2
Mildred 337
Millens Cream 3
Milleus Toilet 3
Millens Antiseptic 3
Millens Tar 3
Miners Tar 3
Milk Bath 3
Monroe 3
Moss Rose Borax 3
Mox-Nix 340

Naphtha Toilet 340
Naphthal 340
Napthol 340
Naptholive 340
Naptha Washing Powder—Hunt Mfg. Co., Cincinnati, Ohio.
Natnral Gas 340
Next-To. Phoenix Chem'l Co. New York.
Nolabor 340
Northern Star 3
Noxlabor 340
Noxwork 340
No. 81 White Rose Glycerine 3
No. 3725 White Rose Glycerine 3
No Name 3

Old English Brown Windsor 346
Old English Blue 3
Old Linen 3
Old Time Tar 3
Olive Bath 3
Orinoco 337
Orris Unscented 337
Otis Lightning, C. H. Waterhouse, Essex, Conn.
Our Baby's Bath 3
Our Own 3
Onr Special 3
Oxolive 340
Oxigen 340
Ox Oil 340

Palmo 340
Palm Oil S. Powder 340
Palm Soap Flour 340
Parisian Toilet 54
Passion Rose 298
" Violet 298
" Pink 298
" Lily 298
Peace 340
Peach Blue 340
Peerless Country Club 337
Peerless Forest Violet 337
Peerless Lily of the Valley 337
Peerless New Mown Hay 337
Pen Yen 340
Perfecto 121
Plantol Lever Bros., Limited Port Sunlight, England.
Poncine Erasive 3
Pony Up 340
Popnlar Blossom 3
Premium, Davenport (Iowa) Soap Co.
Premium W. Powder, Davenport (Iowa) Soap Co.
Preventionette, Willard Chemical Co., Malden, Mass.
Pnre Large Oval 3

Queen Complexion 3
Qnick and Easy 56

Radiant Violet 3
Red Raven 346
Reve d'Amour 3
Rex Cremo 340
Rex Family 340
Rex Liquid Soap 340
Rexolene 340
Rexolive 340
Rockford Scouring 2
Romola 3
Rose d'Or 3
Rose Glycerine 3
Rose Immortelle
Royal Lily 16
Rnbbo, Lever Bros., Limited, England.

Safegnard Carbolc 53
Samsou's Transparent Tar 3
Sandalwood 3
Sani-Tari Skin, Citizens Wholesale Snpply Co., Colnmbns, O.
Santa Rex Castile 2
Saner's Complexion 3
Savon White Rose 3
" Jockey club 3
" Violete de Parme 3
" Hyacinth 3
Savon Carnation 337
Savon Heliotrope 337
Savon Lilac 337
Savon Queen Regent 337
Savon Quo Vadis 337
Savon Rose Marechal Niel 337
Savoy Alpine Violet 337
Savoy Carnation 337
Savoy Jockey Club 337
Savoy Primrose 337
Sayf-Syde, Sayf-Syde Soap Co., Cincinnati.
Sentinel 340
Sentry 340
Snow Violet 3
Solos Lanndry, Nelson Mfg. Co., Iowa City, Iowa.
Sorosis 340
Stainoff, D. M. Steward Chattanooga.
Stainilgo, Kendall-Davis Co., Boston, Mass.
Star Mottled 2
Star Tar 286
Success Scouring Sand Soap Tacony Soap Co., Phil'a
Superior Transparent Glycerine 3
Sweet Blossom 2

Tew-Fer 96
Tode 340
Tonla Toula 334
Town Market 3
Trash Mover 286
Twin 2
Twin Rose 3
Two Jacks 340

Uncle Sam's Floating 120
U-Lika-Me 286

Vegetal Bouquet 3
Vestal Carnation 16
Vestal Lilac 16
Vestibule 3
Vineta 3
Vinola Cream 3
Violette Grandfleur 334
Violette Revee 3
Violet de Parme 337

Wego 96
Wendela 3
Whale 3
White Fairy 2
White Pine Castile 344
White Rose Glycerine 3
White Rose Honey 3
White Saxony 3
White Wonder 346
Windsor 2
Winner 29
Witch Hazel Bath 3
Witch Hazel Bonquet 3
Witch Hazel Shaving 3
World's Fair 2
World's Work 53

Yellow Dog 340
Yellow Palm 340
Yellow Rose 3

Zingarella 3
Zo-Zo White Tar 3
Zanette 3

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By a man who has had 9 years experience as a Soap & Oil Chemist, and 18 years as a Soap Maker. Can make toilet and Laundry Soaps of all kinds, including the best money makers on the market. Experienced also in Cotton foots Soaps and the extraction of glycerin. Satisfactory references given. Address: "J. F." care of American Soap Journal, Milwaukee. Wis.

Position Wanted: By an intelligent, practical soapmaker, with first-class references. Experienced in laundry, toilet and textile goods, also white, green and yellow soda and potash soaps, hard and soft, soap powder, scouring, floating, transparent, etc. All letters confidential and returned if desired. If you want a thoroughly reliable and satisfactory man, please address: REASONABLE TERMS, care of American Soap Journal, Milwaukee, Wis.

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Position wanted by a first-class soapmaker in laundry and toilet; can take charge of factory. Best of references as to character and ability, including present employers. Address: B. Y., care of this paper.

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We buy empty hard-wood barrels of any description. KRELL BROTHERS, 1612 Cherry Street, Toledo, Ohio.

FOR SALE.

For Sale: A modern soap factory with best facilities for manufacturing on an economical basis, located in a fine city in the middle west, that can not be excelled for market of product, or getting raw material, also best social and educational facilities. Owner wants to retire on account of failing health; will sell on good terms, or with the right party may retain an interest in same. This is an opportunity to secure a bargain in a money making business. Address: "E. B. J." care of American Soap Journal and Mfg. Chemist.

SITUATION WANTED.

Situation wanted by thoroughly competent and reliable soapmaker. Address: Y. Z., care of American Soap Journal, Milwaukee, Wis.

By an expert, all-round American soapmaker, for years superintendent of factory. To show good faith, will begin on trial without pay 'till ability is proved. Can refer to everyone of past employers without exception. Address: Frank W. Hill, care of American Soap Journal, Milwaukee, Wis.

PARTNER WANTED.

An up-to-date business man, with energy and some capital, in a soap manufacturing business in a western state. Population 60,000. For full particulars address: W. C. M., care of this Journal.

SOAPMAKER WANTED.

Wanted, a practical soapmaker, one competent to take charge of soap factory. Address: Caswell & O'Rourke, Derby Line, Vermont.

The American Soap Journal & Manufacturing Chemist.

A MONTHLY JOURNAL OF THE MANUFACTURING CHEMICAL INDUSTRIES.

DR. HENRY GATHMANN, PUBLISHER.
2707 North Ave, Milwaukee.

MILWAUKEE, WIS., March 1, 1904.

VOL. XIV. No. 7.

U. MAR 7 1904

THE AMERICAN SOAP JOURNAL AND MANUFACTURING CHEMIST.

SUBSCRIPTION:

UNITED STATES, MEXICO, and CANADA, $2.00 a year
FOREIGN COUNTRIES in the Postal Union 2.50 "

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For Rates and other Information concerning small advertisements of **WANTED** and **FOR SALE**, see Announcement at the head of that page.

OFFICE OF PUBLICATION:

2707 NORTH AVENUE, MILWAUKEE, WIS., U. S. A.

The AMERICAN SOAP JOURNAL AND MANUFACTURING CHEMIST is devoted to the interests of all manufacturing industries of a chemical character, and is an absolutely independent publication. It is the only newspaper of its kind in America and has also a large foreign circulation.

For Subscription and Advertising rates see above.

Communications on industrial subjects, news items, and any information suitable for printing in these columns, are solicited and will have due attention.

Readers in search of machinery, supplies etc., not advertised in these columns, are invited to write us and we shall endeavor to supply the information.

Address all communications to

DR. HENRY GATHMANN, Publisher,
2707 NORTH AVENUE,
MILWAUKEE, WIS., U. S. A.

The "Wanted and For Sale" advertisements in this paper contain several announeements this month, well worth the attention of those able to fill the several wants.

We are in reeeipt of a letter from an oil mill in Marseilles. There is nothing remarkable in the letter, but there is something almost remarkable in our receiving it, for it was addressed: —

Monsieur Milwaukee,
Direetor of the American Soap Journal,
Wiseonsin, Etats Unis.

We believe that Monsieur Milwaukee is proud of this paper, but honesty obliges us to eonfess that only a small portion of him is Director of the Ameriean Soap Journal.

We need one eopy eaeh of the April. 1903 and the Deeember, 1903 SOAP JOURNAL; we need them very mueh, and willl pay 25 eents for eaeh. Who will send them to us?

Once more we feel the need of saying publicly, what we have written privately to many correspondents of late. Namely: *We do not intend to operate an employment agency.*

We have before us a letter offering us a good eommmission, if we will find employment as a soap maker for the writer. We also have a letter from a soap faetory asking us eonfidentially for a suitable soapmaker. Betweeu the two it might be easy for us to make a niee commission; but *we do not intend to operate an employment agency.*

The eheapest, quiekest, fairest, way of all is to make your wants known in our "Wanted"eolumn. It eosts a minimum amount of money only; it is eonducted in an absolutely impartial way; it refuses any chanee for a "eommission;" and *we do not intend to operate an employment agency.*

We hope that all good soapmakers will find a good position, and that all good soap factories will find good soapmakers. Our "Wanted" column will do more to bring this about than anything that ever happened, but WE DO NOT INTEND TO OPERATE AN EMPLOYMENT AGENCY!

One of our subscribers who, from time to time, gives us a hint that may do some good to other readers without

hurting him, and who has read the late issues of this paper as carefully as he did those of ten years ago, remarked in a recent letter: "A mean cuss is he, who only chops down trees and does not plant new ones for those coming after him."

This observation, (made evidently after reading Mr. Moulies's contribution), was intended as a figure of speech. In fact, it means that those profiting from the good things given freely by readers of this paper, should not be content to just take the profit. They should endeavor to reciprocate.

Reading, as we do, week after week, a large number of trade papers from Europe, we have often noticed strange paragraphs that almost peremptorily called for some comment on our part; but on second thought we usually conclude that but few of our readers would be really interested in the same and so we pass them by, as a rule. But there is one remarkable curiosity that we lately observed which we cannot keep ourselves from remarking about, to-wit:

From German soap papers we learn that the ever-present "law" forbids small soap makers, working alone or with only one or two employes, from holding themselves out as soap "manufacturers," it being held that such an establishment is only a "work shop" and that its owner, in using the pretentious designation of "factory" or "manufacturer," creates the impression among the consumers that he has greater manufacturing facilities than is really the case, and that therefore he is guilty of "unfair competition."—It would seem to any but the very narrowest minded persons, that so long as a consumer chooses a certain brand of soap at the price asked, it makes no difference in how large an establishment it was made! To deny the small soap maker the right to call himself a manufacturer is on its face an absurdly small, hair-splitting, mean piece of business, so small indeed that we at first did not comment on it at all.

But just now we read in one of these German papers the cool statement that the name "Soap Powder" is the ordinary designation in Germany for all washing powders, including those containing no soap whatever.

It seems therefore that in Germany it is not considered unfair to sell the consumer washing soda under the name of soap; but if a small producer calls himself a manufacturer, then the large producers in company with the law convict him for misleading the consumer!

The report of the proceedings of the manufacturing perfumers at their meeting last month, as printed on another page of this paper, shows much good resulting from properly directed efforts of a well-organized association. It is well worth reading, even if you are not a perfumer.

We wish to set right one of our expressions of opinion in the February JOURNAL, in which we quite inadvertently chose our words so as to say something different from what we actually meant. We stated that it was "surprising that usually serious-minded people could take up the argument against the hygienic value of soap in earnest." Now, it certainly is surprising that such a paper as the *Lancet* could give space to a foolish letter of a certain correspondent, who could think of no other way of becoming famous than to "discover" that soap is at the bottom of all sorts of diseases. And it is equally surprising that so foolish a proposition should occupy the serious thoughts of "Professors" and "Students," who thereupon felt at once a crying need of replying to this letter.

The whole thing looked to us about the same as though some person claimed to have discovered that two times two was nineteen, and that the "Professors" of arithmetic and geometry felt called upon to disprove the theory.

The whole performance was too widespread to quite ignore it, and too foolish to take seriously, but in so much as it could injure the consumption of soap, it was but right for any one interested in soap "to take up the question in earnest." In our statement, therefore, we meant (but forgot) to exclude all who have a real interest in the welfare of soap.

From Correspondents.

IN A REMINISCENT STRAIN.

February 15, 1904.

Dr. Gathmann.

Dear Friend: —— —— My condition of health is not so very bad; I have no organic trouble; just a little played out. My stomach does not work right, like a kettle of soap which does not work as it should—there is some fault with the "stock," or else it is badly manipulated.

The "List of Brands" received. I have read it with *great interest*, for though apparently it is nothing but dry details, yet it has been, to me, a history of the soap trade in the U. S. for the past 50 years. It tells me of some brands which I had entirely forgotten; once they were money-makers. They were known from New York to California, but at last they ran on the rock of adversity or were badly handled and went to pieces in a collision. They are now forgotten wrecks.

My object in buying the list was to see if any one had selected or used a title which had been evolved in my

mind and which I thought would be exactly suited to a soap we thought of making. Sure enough, there was the very name I had originated! So far as I know it is not in use now, though, and I may write the owner about it. Yours truly,

———— ————.

[This writer is a large soap manufacturer, taking a vacation for the benefit of his health. As it gave him the opportunity to write so interestingly, we hope other manufacturers will see the good points of a vacation.—Editor A. S. J.]

A FALSE REPORT CORRECTED.

Pawtucket, R. I., Feb. 10, 1904.

Editor American Soap Journal.

Dear Sir: We note in your issue of Feb. 1st an item stating that "J. O. Draper & Co. had sold out their business to Swift & Co. and that the soap manufactory on Front street would be closed."

This is an error and we wish you co correct it. We are still making soap on Front street and our business is on the increase.

We did sell our grease *collecting teams* to Swift & Co. and that was all; we are running our business as we have done and are not connected in any way with Swift & Co. or any other firm.

We would like to know the source of your information, so we can write them.

Very truly yours,

J. O. Draper & Co.

A NEW CANDIDATE.

February 18, 1904.

Editor American Soap Journal.

Dear Sir: I am in the market to buy a medium size soap factory. If you hear of any such opportunity I would be greatly obliged if you would refer the parties to me. Thanking you in advance,

Yours truly,

———— ————.

[Anxious as we are to serve our readers, we would be swamped altogether with work, if we were to undertake such commissions. Our "Wanted and For Sale" page takes the best of care of such wants, better than we can personally, and at a merely nominal cost.—Editor A. S. J.]

EXIT SOAP.

Brooklyn, N. Y., Feb. 27, 1904.

Dr. Henry Gathmann.

Dear Sir: As you have expressed a fondness for obtaining facts in reference to new materials for the production of soap, the enclosed clipping from "The American Inventor" may prove of interest. Perhaps you are already acquainted with this so-called "soap fruit," and if so, won't you kindly send us some particulars, so that we can get our inventive skill at work designing machinery for the economical handling of same, as undoubtedly the "Progressive American" will soon begin to plant forests of same to do away with the ever costly materials now in use for the production of soap.

Very truly yours,

Houchin & Huber.

[Enclosure:]

The soap tree of Algeria, the Sapindus utilis, is to be used on a large scale for the manufacture of soap. The tree produces a fruit which when ripe is about the size of a chestnut, smooth and plump. The color varies from yellowish-green to brown, and the inside is of a dark color and contains an oily kernel. If carefully chosen, a cutting from this tree in the course of two years reaches the height of six feet. It does not, however, reach maturity until its sixth year, when it bears from 25 to 100 kilogrammes of fruit.

The methods of treating the fruit to obtain from it its saponaceous properties are varied, water or alcohol being generally used. The cost of production and manufacture are alike small, and, owing to the absence of all alkaline properties, it is said to be immeasurably superior to the ordinary soap of commerce.

SOAP PREMIUMS WANTED.

February 6, 1904.

Dr. Henry Gathmann.

Dear Sir: If you could furnish us with the names of firms who make a specialty of premiums suitable for the soap trade, we would esteem it a great favor.

Hoping to hear from you, etc.

———— ————.

[If anyone is prepared to supply this demand, we are ready to give him the name and address of the enquirer.—Editor A. S. J.]

SOAP MACHINERY WANTED.

Rock Island, Que., Feb. 15, 1904.

American Soap Journal.

Dear Sir: We are contemplating the erection of a small soap factory for the manufacture of toilet and laundry. Can you furnish the address of some one who will give us an estimate of the cost of the same?

Yours truly,

Colonial Soap Co.

WHITE-WASH ON TAP.

Editor American Soap Journal:

The "Weekly Industrial Record" of January 8, 1904, publishes an article headed "Adulterated Turpentine," written by Mr. A. F. Tennille of the Bureau of Chem-

istry, U. S. Dept. of Agriculture, on the subject of "Adulteration of Turpentine." He says that complaints have been made of an adulteration of turpentine and so much stress was laid upon the matter that a number of samples were collected for examination, and analysis, and in a number of instances these samples were found to contain adulterants. He points out as "adulterant usually encountered in sophisticated turpentine, petroleum, in one or more of its fractions." He says that turpentine is used chiefly as a diluent and solvent in the preparation of paints and varnishes and that adulterated turpentine works harm to the manufacturer and consumer of the *finished product* both as to financial loss and personal inconvenience." He concludes by saying: "In Georgia and Florida, the principal turpentine producing states, there are laws, enacted last year, prohibiting *under penalty,* the adulteration of turpentine, and prohibiting also the marketing of any turpentine, as "Pure Spirits of Turpentine" except that manufactured by the distillation of the gum. There have been remarkably few instances on the part of producers to ship adulterated turps, and in every case, in Georgia and Florida both, the attempt has been discovered by the rigid inspection system and the adulterated stuff confiscated. ADULTERATIONS OF TURPENTINE, THEREFORE, SHIPPED FROM GEORGIA AND FLORIDA ARE MADE AFTER THE PRODUCT LEAVES PRODUCER'S HANDS." That remarkable communication ignores the fact that the charge is made that the adulteration begins *at the still* and far more dangerous than the adulteration by petroleum. It also ignores the fact that turpentine is used in medicine externally and internally. And as for the "farcial" laws sumer and how that "White-wash" will stand. My authorities are:—

First, an editorial of the Industrial Record as follows: "J. R. Parker, chief inspector of naval stores for Florida acting under the statute of 1903 making it illegal to make adulterated turpentine, "rounded up" twenty-one barrels of it last week, which upon inspection proved to have had three gallons of kerosene to each barrel. It was turned over to Hon. A. G. Hartridge, states attorney, and was *sold last Monday,* bringing 45 cents a gallon. The proceeds, something over four hundred dollars, was turned over to the fine and forfeiture fund of this state."

Second, "Florida Times Union," January 19, 1904, an article headed "Adulterated Turpentine Sold." "Acting under a decree of the Circuit Court, Deputy "Sheriff Edward Williams yesterday sold at *public auc-"tion* 963½ gallons of adulterated Spirits of Turpentine. "The order was made in the case of the State of Florida "vs. the National Transit and Terminal Company, to "which company the turpentine had been consigned. "The adulterated spirits sold for 45 cents per gallon, "the entire lot bringing $433.58. It was bought by S. "A. Williams."

Well, what do you think of that? Kerosene selling at 45 cents a gallon is fine, is it not?

Adulterated turpentine *turned loose on the market,* LEGALLY, after having been confiscated! Shades of Jericho! is there any "farcial performance" that can beat THAT? Oh! please tell me. And of course the purchaser has not paid 45 cents per gallon for fun; it is reasonable to suppose that he will sell it at a profit. And that is how, *myDear Doctor,* the consumer is protected. Perhaps some of your patients will have to take some of that very same *confiscated* spirits of petroleum; dear, dear, what kind of white-wash Mr. Tennille has given us! And he did not allude to the impurities mixed with the gum before and at the operation of distilling. What for, anyhow? The editor of the Industrial Record referring to my "exposure" told me that I ought to know that turpentine purifies ITSELF! I bet that you had not thought of that! Of course, no; if you had, you would not have published my exposure. It is just like a "vegetable soup" in which you put the vegetables without washing them. Imagine carrots, cabbages, onions and all kinds of other vegetables dug up with some chunk of manure hanging on the roots; some "earth worm" entwined around the trunk; some of these *green, plump* things, comfortably installed in the cozy folds of the leaves of cabbages, looking the very image of supreme happiness, and you put all that into the pot, and call that a pure "vegetable soup!" Well, that is just what the Pure Spirits of Turpentine is and will be until the impurities are eliminated before the distilling of the gum takes place; and it is that "pure stuff" that you are compelled to give to your patients.

For your next issue I shall reply to Prof. Herty's letter. It is true that he refers to "your correspondent of Jacksonville" without naming me, but I have some reason to suppose that he means me, knowing of no other correspondent of your paper here. By that time Prof. Herty will not be so much pressed by work in the woods as the "cutting of boxes" and the placing of the cups will be over in a few days and, perhaps, he will find time for the "personal" controversy referred to in his letter.

Yours very truly,

E. MOULIE.

Meeting of the Manufacturing Perfumers.

As previously announced, the tenth annual meeting of the Manufacturing Perfumers' Association was held in New York last month. Richard A. Hudnut presided

and in his opening address spoke of several important suggestions made by members, as follows:

First:—"We think if the newspapers would have more to say about American perfumes in general it would be more popular to use them."

Second:—"The year has been good for business, but with an expense for handling our product, which is more than it should be, on account of the evils we have time and again discussed, and which we suppose all our confreres are subjected to."

Third:—"In view of the fact that the makers of perfumers' glassware in this country are so bound together that they have practically eliminated competition so that requests for quotations on specified bottles result in identical quotations from each glass house applied to, and full information regarding the quotations is supplied to all glass houses interested; also, since those same houses have in the past year reduced their cash discount from two (2) per cent. to one (1) per cent., and regular terms from sixty days to thirty days, and restricted to not later than May 1st, time allowed for taking out bottles made up on contracts, we are of the opinion that the good of the Manufacturing Perfumers' Association demands the breaking up of this monopoly."

Fourth:—"Your circular letter of the 19th inst. received. Replying thereto would say that the most unbusinesslike methods which come to our notice is selling the retailer at jobbing prices in small quantities, and prepaying freight on small orders. We consider that quantity should govern the discounts and freight. From the inclosed letter you will see that for some time past we have been influenced into using the same methods, but, as we believe it unbusinesslike, and has worked harm to our trade, and an annoyance to us, we resolve to discontinue the practice.

"In regard to foreign goods which we compete with most our experience is that so many cheap domestic goods at ruinous prices are thrown upon the market with schemes that it prejudices the consumer in favor of foreign makes. However, we deem it of little consequence what we may advise or suggest as probably all 'unmercantile and unbusinesslike' methods have been presented at previous meetings of the association, and no definite action taken except to refer the same to a committee."

Fifth:—"We are all allowing our agents a larger latitude in making prices and terms than we should—so competition forces prices which are at best very low—still lower. It is very expensive with the great competition. The large value agents put on their services, and the small return they give us to do a small business. We should get better prices and sell on short time. Is a consolidation possible? I am fully convinced that foreign goods will have the preference over our own in sale, while I am sure we give the trade 50 per cent. better values. I can only see the situation and regret that I cannot suggest a remedy."

The membership of the association at present is made up by 57 active and 59 associate members.

The chairman of the Executive Board in his report stated that

"The attention of the board was called by the chairman of the Committee on Fraternal Relations to the fact that, in a number of cases the same name of a perfume was being used by more than one firm and he requested that suitable action be taken thereon. In response to this, attention was called to Article I of the By-Laws, which provides that:—

"To the Executive Board may be referred disputes between members, relative to names, patents, trademarks, etc.," and that inasmuch as this provision is permissory and not mandatory and is intended to afford aggrieved members the opportunity adjusting their differences, it is not competent for this board to take action upon the use of any names by more than one firm until the matter shall have been referred to it by the aggrieved members.

No complaints during 1903 have come before this board. It is, therefore, not officially known that any grievances or differences of opinion exist. It is suggested, however, that a greater use of the provision quoted would be advantageous and that if a larger use of the board as a medium for settling differences were made it would promote the general harmony."

The chairman also stated that (as previously reported in the American Soap Journal) the plan of making a collective exhibit at St. Louis had been abandoned.

The Committee on Legislation reported:—

"At the ninth annual meeting your committee had the honor to report that no great activity was required of it during 1902. Similar conditions, so far as active work in respect to injurious legislation before Congress is concerned, have existed during 1903, and your committee has therefore comparatively little to report in that direction.

"It is satisfactory when no such legislation requires the attention from the association, for in these matters there is so much uncertainty that it often has the effect of unsettling business and creating conditions injurious to trade, and these are particularly liable to exist when changes in the tariff are being considered. There is hope on the part of some who are averse to the protection of home industries that Congress will make many changes in our present tariff laws. Let us hope that no such unfortunate condition may exist, for it will have injurious effect not only upon our own, but upon all business interests throughout the country."

The Committee on Trade Interests had sent a report

the burden of which was that any agreement as to uniformity of prices, discounts, terms, freight rebates, consignment of goods, etc. was not practical or possible, as members of the association desire to conduct their business in their own way.

A very interesting and instructive report was the following of Theo. Ricksecker, chairman of the Committee on Importations and Undervaluations of Foreign Goods:

The imports of manufactured perfumery and toilet preparations for the fiscal year ending June 30, 1903, show a total increase over the previous fiscal year of $115,172, or 16¼ per cent.

The actual totals being:—

Imports for fiscal year ending June 30, 1902..$708,868
Imports for fiscal year ending June 30, 1903.. 824,040

The complete table herewith submitted shows that of this total the strictly perfumery imports were:—

Fiscal year ending June 30, 1902.....$442,168
Fiscal year ending June 30, 1903..... 510,642

Increase of $68,474, or 15.05 per cent. Percentage of increase in 1902 over 1901 was 20.03 per cent.

A share of the general increase is due to increased valuations: also to the increase in our population and prosperity. But the cold fact remains that government statistics show a steady increase in imports each year, in the face of an average duty of 66.87 per cent.

The total imports for the past three years show an average increase of $105,876 each year.

The grand total of imports plus the duty and importer's reasonable profits reached the total of one and a half million dollars last year, which the American people are buying largely on a misapprehension.

The last analysis of this situation and the conclusion of your committee is that a remedy for this condition should be considered seriously by our association if we would stay this growing menace to our interests.

The slight reduction in the average rate of duty for 1903 to 66.87 per cent. shown in the table is due to the greater proportionate increase in imports of preparations named in paragraph 70, as against prefumery strictly.

The difficulties confronting your committee in the discovery of leads, the detection of errors, abuses or frauds in connection with importations of perfumery and crude materials call for such knowledge and experience as is rarely possessed by a layman.

On this hypothesis your committee, as reported at the last annual meeting, temporarily engaged a gentleman who was a former United States customs officer, whose credentials warranted confidence, to investigate and report any leads or evidence he might discover to the Executive Board.

This preliminary examination he was to make without charge, leaving the board to determine whether he should be thereafter employed at a fixed compensation.

We were gratified that we had secured a clean, skilled man for this work; but unfortunately his death was announced on Feb. 22, last.

Another gentleman offered his services, but your committee concluded he was not equipped with the knowledge and experience that would warrant his engagement.

Our correspondence with the Treasury Department at Washington elicited the personal attention of Secretary Shaw, whose instructions to the Appraiser in New York secured interest and special watchfulness in his division of the New York Custom House.

It must be borne in mind that to secure any practical assistance from our government it is necessary to formally state your case in writing to the Secretary of the Treasury, specifying the names of export houses in Europe and their consignees here that are to be investigated. Also, that the conduct of the secret service of the government is inviolable, and calls for the most delicate handling.

Last year's report alluded to a special agent of the Treasury in Europe with whom we had conferences, who understood our case and had experience in kindred lines. Subsequently we asked the Treasury Department at Washington if they would not instruct him to include our interests in his investigations there. This was declined, as the department found it involved transferring him to another field which was pre-empted.

In the matter of errors in invoicing crude materials:—

Last spring your chairman made a short business trip to Europe and took occasion to inquire of certain of the best manufacturers and distillers in various parts of France and Switzerland if they knew of any errors in invoicing synthetics, natural products or partly made compounds, that called for investigation, and found no leads in this direction.

He also secured the correct rates of discount for export of the various European manufacturing perfumers and supplied same to the Appraiser's Department here.

The net results of the work may be summed up as follows:—

The moral effect of the fact that this association is alert to its interests, and its helpful influence with government officials in securing enforcement of the customs law is certainly wholesome and a menace to those who would circumvent them or make false entries.

On April 29, 1903, our esteemed secretary, Mr. Davis, mailed you excerpts from the Oil, Paint and Drug Reporter under dates of April 20 and April 27 also from the Commercial and Financial World April 18, announcing the increase of 17 per cent. on certain entries of French imports of perfumery partly manufactured, by the Appraiser and the General Appraiser.

The Board of Reappraisement of the United States General Appraisers reaffirmed this decision on appeal.

So, that, while they do not (nor do we), reflect on the integrity of the importing house, the advance in duties of 17 per cent. stands.

It also transpired that the importers publicly advanced their American wholesale prices.

There is probably no feature of the Appraiser's duties more troublesome and difficult than a just appraisement of partially manufactured goods.

And in this condition we take pleasure in testifying to the ready, conscientious, business-like treatment of these matters by the Appraisers as well as courtesy shown us.

As stated in last year's report, the Executive Board authorized us to expend up to $500 for investigations, but we have not found it necessary to incur any liability so far, and leave our successors, new men, with new ideas and fresh energy, to continue the work.

May we suggest that you promptly acquaint them with any facts or leads bearing on questions involved, and that they may rely on that family secrecy necessary to successful outcome of investigation.

A resolution was offered by Mr. Richardson, and passed, to the effect that the Committee on Freight and Transportation be instructed to ascertain the date and place of the next meeting of the Joint Traffic Association and present our claims in writing for readjustment of classification of freights, putting tooth, toilet and face powders at same rates as soap valued at over ten cents a pound and perfumes under same rate as Florida water and toilet waters. That this written application be signed by the committee and by the president and secretary of the association. Also that the committee confer with the Executive Board for such action as they deem best. Also that the Executive Board provide a seal of the association to add strength to all such documents."

The election of officers for the next year resulted as follows:

President, H. S. Woodworth.
Vice-President, Adolph Spiehler.
Second Vice-President, F. B. Mareh.
Secretary, James E. Davis.
Treasurer, Robert C. Eastman.

The Chemical Factor in Human Progress.

By Peter T. Austen, Ph.D., F. C. S., late Professor of Chemistry in Rutgers College and the Brooklyn Polytechnie Institute.*

What is now called chemistry is not an old scienee. It is true that the name chemistry is supposed to be derived from Chemia the ancient name of Egypt. The Arabians, who in the year 640 A. D. overran Egypt, obtained their knowledge of chemistry, that is, the crude rudiments then known, in that country, and prefixed the Arabic article to the word, thus producing the term, Alchemy. The word Chemia first occurs in the Byzantine writers of the fourth century and refers to the art of making gold and silver, and also means the Secret, or Black Art.

In the writings of Geber, who was the most distinguished of the Arabian alchemists, many chemical operations, such as filtration, distillation, crystallization and sublimation were known, and by their use he produces new substances and purifies known ones. A number of substances are described, as alum, green vitriol, saltpetre, sal-ammoniac, aqua fortis and aqua regia, the solvent for gold, and also oxide of mercury and corrosive sublimate; perhaps, too, sulphuric acid. Still it was alchemy, not chemistry. In the thirteenth century the knowledge of alchemy had spread from the academies of Spain all over western Europe. In Spain was Raymund Lully; in Germany, Albertus Magnus; in France, Arnold Villanovus; in England, Roger Bacon, who was tried for sorcery, and who showed that certain appearances attributed to supernatural agency were due to natural causes. In the fourteenth century interest in the study had still more increased and many new substances had been discovered. The old idea of Geber that all matter was composed of sulphur and mercury was generally accepted, and now Basil Valentine adds a third constituent, salt. These were supposed to be principles, and hence not necessarily identical with the substances bearing their names. The Aristotelian symbolic elements, earth, air, fire and water, had been given up. Up to about this point chemistry had meant an attempt to make gold and silver. Now the era of medical chemistry began, and the search after the *elixir vitoe*, a cure for all ills, began; and in this search many valuable medicines were discovered. Chemistry was the servant of medicine. I might trace out more fully the development of the science, but I simply wish to point out how young a science chemistry is. We are now in the sixteenth century and not yet is there an idea of a science of chemistry. From about this period up to 1770 discussions and wordy wars were waged, wild theories and speculations were advanced and refuted, but no means were at hand to enable the investigators to apply exact measurements to the chemical changes of matter. In 1770 the great French investigator, Lavoisier, announced the prineiple of the indestructibility of matter, proving it by the use of the balance, and chemistry became an exact scienee.

It is hard to appreciate the enormous advance that science had made in the last century. Think of the marvelous wealth of chemical knowledge at our disposal to-day, and then recall the fact that only 131 years ago

chemistry became an exact science. It was seen then that a chemical change involved the weight of the materials used. Discovery followed discovery, and in 1803 John Dalton gave to the world, in intelligible language, the first real chemical law, the law of chemical combination in definite and constant proportions, and the first real chemical theory, the atomic theory. More exactly, Dalton pronounded the first quantitative atomic theory, his predecessors having suggested only qualitative ideas. Now followed Guy Lussac's law of combination by gaseous volume, the wonderful law of Avogadro, the foundation of our modern chemistry, the law of specific heats by Dulong and Petit, and the law of isomorphism by Mitscherlich. I will stop here. The precious metal had been found. Many had been the prospectors in this mine of wealth. Here and there a nugget had been found, but now the great vein was opened and energetic, hardy workers bent to the toil. Discovery followed discovery, ramification on ramification of noble metal was disclosed. The world seemed flooded by the continually increasing additions to its wealth of knowledge. And there has been no abatement in the yield of this wonderful source. Let us examine some of these discoveries, their applications to human affairs, and their influence on the development of mankind.

It is not easy to fix exactly the dates or beginnings of discoveries. Almost every great advance* bears the imprint of many hands, and it is not always easy to say just at what point it began. If Darwin and Spencer did much for the theory of evolution it must not be forgotten that Kant, Goethe, Lessing, Herder, St. Hilaire and Lamarck also pondered over it, and that seven centuries before Christ it was agitated. Several critics in attempting to rob Darwin of his share of this work by citing previous workers in the field, have quite unconsciously strengthened the theory by showing that it, like many others, has grown by slow development. So with the atomic theory. The seeds sown amid the speculations of Lucretius about atoms, which for hundreds of years had been shuttlecocks for metaphysicians, germinating in more favorable soil, bore a flower of most wondrous beauty, the atomic theory of John Dalton.

One of the most difficult things to actually realize is the fact that, but a short time ago, almost all of what we now term necessities of life did not exist. Railroads, steamships, telegraphs, and all the mechanism of our life to-day were then unknown. "In the thirteenth century," writes Gore, "we knew nothing of foreign wines, foods or fruits, watches, clocks, steel pens, bank notes, checks, money orders, the postal system, police, telegraphs, paved streets, macadamized roads, stage coaches, cabs, omnibuses, tramways, railways, canals, steam engines, steamships, gas lighting, electric lighting, photography, bicycles, sewing machines, pianos, silk, alpaca, wool, soap, coal-tar dyes, artificial manures, phosphorus matches, petroleum lamps, articles of gutta percha and india rubber, etc., and many other conveniences."* Even we have seen the telephone take up its place among our valuable but not always obedient servants. And many of us will probably live to see thermo-electricity grow to be a giant who shall place at our disposal powers as yet almost incalculable.

Returning over some of the great chemical developments to find a starting point agriculture appears to be a good field to begin in. As agriculture is the oldest industry on the face of the earth, it is not strange that many facts should have been discovered during the centuries of its practice. But, before chemistry was developed, there could be no science of agriculture. What was known was purely empirical, and no reason could be assigned for the result. Many may be surprised to know that scientific agriculture dates from 1862, thirty-nine years ago, the date of the publication of Liebig's great work on "The Chemical Process of Vegetable Nutrition and the Laws of Agriculture." Liebig's first work appeared in 1840, and was met with a storm of abuse and criticism. But then the world often means that one has evolved an idea having some claim to originality. It seemed particularly to vex the public that a chemist should meddle with agriculture, and dare to assail the views of practical farmers. The book went through many editions and then dropped out of notice, for, although founded on correct principles, Liebig had erred in his inferences, and his ideas when put into practice failed entirely. Liebig stated that the plant lived on, or assimilated, the simple or inorganic constituents of the soil and converted them into complicated organic substances such as cellulose, sugar, albumen, etc., and that the animals lived on the plant; that the plant built up complicated substances out of simple ones, and that the animal consumed these complex substances and then converted them back into simple substances. In other words, the plant was a synthetic organism, and the animal an analytic. To establish this, and to found upon it a practical method of agriculture and physiology, was a work so colossal that it is no wonder that even the mighty intellect of Liebig should have failed at first to grasp all of the details. Liebig examined an immense number of plants from all parts of the world, and found that while the plants all contained the same ash-constituents, different kinds contained different proportions of these mineral ingredients; even different parts of the same plant, as the leaves, the stalks or the seeds, contained varying relations of ash-constituents. As a result, Liebig was able to state that every plant takes from the soil a certain amount of mineral substances as a definite mixture, and that these substances will be found again in the ash, and that the carbonic acid and ammo-

nia which the plant requires to form its combustible parts are taken up through its leaves and roots from the atmosphere. If wheat, or corn, is grown on a field, year after year, in time the mineral food of the soil will become exhausted and the plants will not thrive, but will be dwarfed and puny and incapable of enduring the weather, or will die of starvation. Now, if the proper amount of mineral nutriment be added to the soil, the plants will grow, and the atmosphere and mechanical nature of the soil will look after the rest.

A factory was established to manufacture artificial fertilizers according to Liebig's idea, but after several years of trial it was found that they were a complete failure. Liebig knew that his theory was right, but was unable to explain why it failed in practice. He worked and thought, and thought and worked. After several years he noticed that certain fields which he had treated with his fertilizers, and which had not been bettered by them, began to show slight but marked and increasing signs of fertility. In the meantime, the English farmer, Lawes, working with a chemist named Gilbert, showed that fertilizers would produce effects if added in a soluble form, and further that ammonia and forms of nitrogen were not taken up by the plants from the air alone, but that they must be added to the soil. If these conditions were followed, the yield of a field was enormously increased. Liebig had supposed that if his fertilizers were easily soluble in water they would soak through the earth before the plant could assimilate them, and had hence made them as difficult soluble in water as he could. But Thompson and Way long ago proved that surface soil had the power to retain certain substances when in solution. The scales fell from Liebig's eyes. The mineral food of the plant must be placed on the soil in soluble form; the soil would hold it and the roots would absorb it. In 1862 appeared the new edition of his great work and agriculture became a science. The manufacture of artificial fertilizers became an industry. It was easy to find out what was the proper food of any plant, and no farm need suffer from exhaustion. Since then the progress in this branch of science has been so rapid that it is hard to follow it. The striking facts of this discovery have been merely touched upon; there are many minor ones, and the conditions necessary for the successful application of the results are numerous, but every day shows advance in our ability to understand and apply them.

What are the effects of this discovery upon civilization? We find that agriculture as a livelihood, indeed, as a profession, has enormously increased. The vast deposits of fossil bones, phosphate rock, and of guano have been opened, and have developed a great industry, as well as have increased the resources of the world many fold. Stations have been established in many places for the examination of fertilizers and the determination of their value by chemical analysis, and employ a small army of trained chemists. The education and protection of the farmer have become a matter of national importance. Instead of farming land until it is used up, or relying on an empirical rotation of crops, the nutrients taken from the soil are systematically put back. Careful study of the chemical composition of a plant and the effect of chemical fertilizers enable us to develop certain products formed by the plant. Thus the beet root, by careful treatment, has been compelled to produce a far greater amount of sugar than formerly, and Germany has been freed from her dependence on other countries for her supply of sugar. Certain substances have been found to increase the specific functions of a plant, and so a plant can be developed into leaves, roots, stalk or seed. Its stalk can be strengthened or weakened. In fact, we are getting to be more and more masters of the vegetable kingdom, or in other words, we can make two or even ten spears of gross grow where there was but one, and each will be bigger than the original one.

No man who has brains and muscle, and who is not afraid to work, need ever starve in this country, where land is so plentiful. Let us note one fact here, which is often overlooked. The great wave of agricultural development has swept over the West and is rolling towards the Pacific. These pioneers skim the cream. When the soil gets exhausted they move on to new ground. This is not an entirely beneficial production. We are sending it is true, vast amounts of grain and foodstuffs to Europe, and money is coming back, and in what proportion? The mineral ingredients of these breadstuffs are lost to us, and soon we shall have to replace them, which will cost us more, perhaps, than we have received. In 1883 we exported:—

Of wheat	$120,000,000
Of corn	28,700,000
In all	$148,700,000

The cost of production of this was $60,400,00; so that one might think there was a profit of $88,300,000.

According to Prof. Voorhees, of the New Jersey Experiment Station, however, there were in this exported wheat and corn 70,000 tons of nitrogen, 40,000 tons of phosphoric acid, and 21,000 tons of potash, which are worth, at market rates $33,000,000. Hence our real profit is only $55,300,000, and a corresponding decrease in the capital stock of the West. This amount in time must be replaced, or our soil will become exhausted. So long as we can draw on our native supplies, well and good, but the time may come when we may have to buy them back, and at an advanced price.

In a word, then, Liebsig's great discovery has done

much to develop the prosperity and independence of nations, for the independence of a nation will be based largely on how well it can feed its inhabitants, that is, its power of endurance. No better result of the wonders that scientific agriculture can accomplish may be seen than in the States of Connecticut and New Jersey. Look at the thousands of acres reclaimed from stone and sterility and now yielding bountiful crops under scientific treatment. Nor forget what honor is due to the men who, by dint of sheer persistence, grit and brains, introduced Liebig's work into this country, and who have educated the plain agricultural workers to such an extent that these States can compete with others better adapted by nature for agriculture production, who established the first agricultural stations, after which all of our others have been modeled, and to whom not only these States but our whole country owes a debt of millions of dollars, if prosperity can be repaid in cash. I mean Prof. Samuel W. Johnson, of New Haven, and Prof. George H. Cook, of New Brunswick.

TO BE CONTINUED

A Method of Grading Soaps as to their Detergent Power.

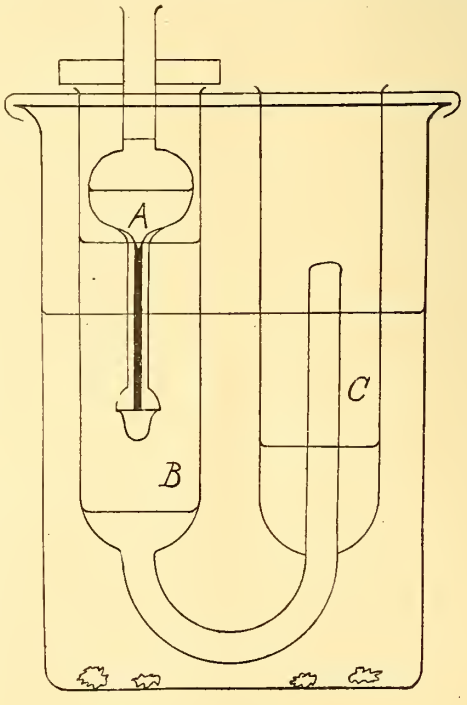
BY H. W. HILLYER.

As far as known to the writer, no method for directly determining the detergent value of a soap is now known. It is assumed, and with much justice, that the value of a soap is a function of the amount of combined fatty acids present, and the valuation of soaps is now based on the determination of the fatty acids. Besides this, the determination of the free alkali and of water and various filling materials is required. These determinations give evidence on which the valuation of the soap may be based and, to some extent, for ascertaining the materials from which it is made, but do not give any direct measure of the value as a cleansing agent and, further, require a complex judgment to interpret them.

The method now proposed is based on the study of sodium in soaps, previously published in this Journal, 25, 511 and 524. In the articles indicated, it was found that when a solution of a soap is made to form drops beneath the surface of an oil, the number of drops formed from a given volume of the solution is dependent on the amount of soap present in the solution. Further, the conclusion was reached that the number of drops formed was a measure of the emulsifying power of the given soap solution, and that the emulsifying power was so large a part of the cleansing power that it might stand as a measure of it, especially, since two of the other probable factors in cleansing, namely, penetrating or wetting power, and lubricating power are dependent on the same physical properties as the emulsifying power.

Soaps are used principally in one or two ways. They are used with cold or luke-warm water, as in wool-scouring and for toilet purposes; or, on the other hand, they are used in boiling water, as in silk-boiling, dish-washing, and laundry work. A soap may be of value for one of these purposes and of comparatively little value for the other. The method proposed takes these two peculiar conditions of use into account and attempts to grade the soaps as to their efficiency for cold use and, on the other hand, for use with hot water.

For making the test for efficiency in use with hot water, the apparatus is similar to that used for the study of sodium palmitate and stearate, but modified in the interest of greater constancy of results. The essential part is a pipette (A) with a capillary outlet of about 0.5 mm. internal diameter and a flat, horizontal surface, about 10 mm. in diameter, from which the drops fall. This surface must be free from capillary openings, which may contain air, as described in a former article. The reservoir of the pipette is spherical, that it may have a small vertical height relatively to its volume, since a great vertical height makes a greater difference in the pressure and consequent rate of flow at the commencement and at the end of an observation. When the initial pressure is great, the rapidity of flow may make the solution run down in a stream or cause the drops to be formed too rapidly to be easily counted. This may be overcome by dipping the pipette more deeply into the oil; but when that is done the latter drops are formed more slowly than is desirable. By having the bulb capacious in proportion to its vertical height the initial and final rates of flow are nearly enough alike to prevent any special difficulty. The pipette holds 5



cc. from a mark on the stem to the upper end of the capillary. The stem has an internal diameter of 3mm., wide enough to allow filling from above, and, to facilitate this method of filling, it is widened at the upper end into a small funnel.

The second part of the apparatus is the receptacle for the oil, which may be a simple test-tube, but is preferably made in the form (BC) indicated in the drawing. This form maintains a more nearly constant pressure and promotes more regular work. To maintain the apparatus at the boiling-point of water, it is supported in a large beaker, which is used as a water-bath. The beaker is covered with a sheet of zinc or aluminum with its edges turned down over the edge of the beaker, and with a perforation cut in it suitable for the insertion of the apparatus.

To make use of the apparatus, 2 or 3 cc. of water are poured into B and then followed by cc. of kerosene. A little of the solution to be tested, previously heated on a boiling water-bath, is poured into the pipette and shaken about, and then blown out through the capillary, using a piece of rubber tubing as a mouth-piece. This is repeated twice more. Then the pipette is filled full, and by a strong pressure from the lungs the air bubbles are forced out of the capillary and washed away. The pipette, supported in a cork, is placed in the kerosene, and the number of drops formed from 5 cc. of the solution is counted. The solution, as it flows from the pipette, falls to the bottom of the oil reservoir B and overflows into C, while the level of the kerosene remains constant and the variation of pressure is that only which results from the change of level of the solution in the pipette.. Since this is in every case the same, comparable results are more easily obtained than by the use of a test-tube as oil reservoir.

To make a test of efficiency of the soap for use in cold water, the same apparatus is used, except that the beaker, used as a water-jack, is not necessary.

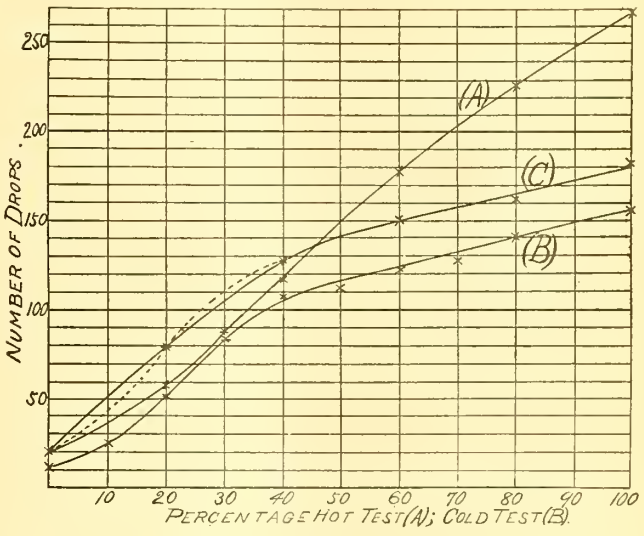
As a standard for the hot test, 1 gram of neutral sodium palmitate, dissolved in 200 cc. of hot water, is used. Of this, 10 cc., 20 cc., 30 cc., and 40 cc. are, respectively, diluted to 50 cc. with boiling water, giving solutions containing 0.2, 0.4, 0.6, and 0.8 of the standard. The number of drops formed by each of these solutions, when it flows into a kerosene, adopted as a standard kerosene, is determined, and also the number of drops formed by the standard solution itself and the number of drops formed by water. The data obtained are plotted as a curve in which the ordinates represent percentages of the standard and the abscissas represent the number of drops corresponding to the percentages of the standard. The data, obtained with a certain kerosene, are here given and the curve (A) derived is shown in the figure.

The standard is made by bringing together 0.921 gram of palmitic acid and 36 cc. decinormal sodium hydroxide and diluting to 200 cc. with hot water.

Full standard	gives	drops	271-265-269	=268	average.
0.9	"	"	228-228	=228	"
0.6	"	"	180-178	=179	"
0.4	"	"	118-121	=119	"
0.2	"	"	56-55½	= 56	"
Water	"	"	19 ½	= 19	"

If any solution of sodium palmitate, which contains an amount less than one part in 200 of water, is tested by the dropping method at the boiling-point, the amount present may be determined by counting the number of drops formed. By finding, on the curve, a point corresponding to the number of drops counted and letting fall a perpendicular from this point upon the base line, a point will be formed which indicates, as a percentage of the standard, the amount of palmitate present.

Other soaps may be tested in the same way and referred to sodium palmitate as a standard. If 0.5 gram of a commercial soap is dissolved in 100 cc. hot water and its solution tested at the boiling-point, we may state



the result in this way: The soap in question gives the number of drops which would be given by a solution of sodium palmitate containing (x) per cent. of the standard.

According to the conclusions arrived at in the previous articles, the number of drops is a measure of the detergent power of the solution. Consequently, the result of the test may be stated as follows: The soap has, when used for cleansing with hot water, a detergent power as great as a soap containing (x) per cent. of sodium palmitate.

TEST FOR COLD-WATER SOAPS.

A solution containing one part of sodium oleate in 200 parts of cold, freshly boiled, distilled water is taken as the 100 per cent. standard for soaps to be used with

cold water. From this, fractional standards are made as before, using cold, freshly boiled, distilled water to dilute with. All are tested as to their drop number in the cold and a curve constructed. In a previous article it was stated that the curve for sodium oleate was different in shape from the curves for the other sodium soaps tested. The following data gives a curve for the oleate (B), which appears to have nearly the same form as the curves previously given for rosin soap and different from the curves formerly given for oleate. But this difference is due to the greater dilution of the solution and to the greater number of fractional standards, and to the fact that observations are made nearer the origin. The curve shows that sodium oleate is somewhat hydrolyzed at great dilutions. A set of standards gave the following data and curve (B).

Full standard	gives	drops	153-153	= 153	average.
0.8	"	"	"	139-141 = 140	"
0.7	"	"	"	128-128 = 128	"
0.6	"	"	"	123-122 = 123	"
0.5	"	"	"	111-111 = 111	"
0.4	"	"	"	107-105 = 106	"
0.3	"	"	"	84 = 84	"
0.2	"	"	"	51-50 = 51	"
0.1	"	"	"	25-25 = 25	"
Water		"	"	11-11 = 11	"

For evaluating a commercial soap the efficieney in use with cold water the following method of working was decided upon after trying several others, which will be indieated later. The soap to be tested is shaved as thin as possible, and 0.5 gram of the shavings weighed and placed in a 100 cc. flask. The flask is then filled to the mark with cold, freshly boiled water and allowed to stand over night. In the morning the solution is stirred, and filtered through a dry filter, letting all run through that will and keeping the solution in the funnel protected from the earbon dioxide of the air by a watch-glass. When all has run through, the filtrate is stirred gently, avoiding making a foam, and a dropping test in the cold is made, using the same pipette and kerosene as that used in testing the standards. By applying, to the standard curve, the drop number observed, a number is obtained which may be stated, as in ease of the hot test. A certain number of drops shows that the soap in question is as effieient for cold cleansing as an equal amount of soap containing (x) per cent. of sodium oleate.

Since surface-tension, viscosity, specific gravity and solubility, factors which enter more or less into the working of the test, are all influenced by changes of temperature, it is best to maintian the temperature constant, as nearly as possible, in all the work involved in making the cold test. It will be convenient, in many cases, to select a convenient room temperature and maintain this, as nearly as possible, during the preparation and testing of the standards, and the preparation and testing of the soap solutions to be evaluated. If many tests are to be made, a trough with glass sides, through which a stream of hydrant water is maintained, might be convenient to set the flasks in and to receive the oil-holder while observations are being made.

Data obtained with a few commercial soaps are here given, showing for each the number of drops formed in the cold test and the percentage efficiency for cold use, indicated by the test; and the drop number by the hot test and percentage efficiency for hot use. The soaps tested are nearly all much-advertised soaps.

	Cold.		Hot.		
Number.	Drops.	Efficiency.	Drops.	Efficiency.	Remarks.
1	121	37	90	31	Cold made, cocoanut oil.
2	56	13	67	21	Hygienic cocoanut oil.
3	114	34	221	77	Toilet.
4	119	36	202	69	Shaving.
5	84	22	80	28	Tar, toilet.
6	75	19	103	35	Yellow laundry, rosin.
7	100	28	135	45	" " "
8	107	31	173	58	Household for cold use.
9	98	27	150	50	" " "
10	139	49	170	57	" " "
11	97	27	206	71	White laundry and toilet.
12	...		226	79	" "
13	...	..	216	75	Prime yellow laundry.
14	120	37	218	76	" " "
15	104	30	277	106	Steam laundry, tallow.
16	142	54	...	...	Castile, old and dry.

These results show how wide a difference there is between soaps which have wide sale and also the desirability of having some standard by which to readily judge them. In the retail market, many household soaps sell at the price of five cents per bar. The bars vary very much in weight, but it was found that in a number of cases the value per bar was approximately equal according to the dropping test. For example, No. 6 is sold in bars weighing 330 grams; its hot test shows 35 per cent. The product of these, or efficiency per bar is 115.5. No. 7 is sold in 270-gram bars. The hot test shows 45 per cent., or effieiency per bar, 121.5. No. 11 is sold in 160-gram bars. Hot test, 71 per cent. Effieiency per bar, 113.6.

This calculation shows that in some cases the manufaeturers have eorrecly estimated the relative value of their product.

From the table it may be seen that those soaps intended for toilet purposes or advertised for eold use are, for the most part, of a relatively high efficiency by the cold test. No. 16 is a dry, old, standard castile soap and shows the highest cold test of any. But it is somewhat surprising that even this is only a little more than half as efficient as pure sodium oleate.

No. 15 is a soap known to be made from tallow. It is consumed by local steam laundries and regarded by

them as the best soap they can find for their purpose. According to the hot test, it is above the standard palmitate in efficiency. Nos. 11, 12, 13, and 14 are among the most highly appreciated family soaps on the market, and show a high hot test.

That there is not a complete agreement between the tests and the advertised uses is not strong evidence against the test. The makers may be mistaken in their judgment of the best way to use their soap, or they may, in some cases, purposely advertise them for uses to which they are not well adapted.

It is not expected that the method, at least in its present form, will give a very exact measure of the value of soaps, but it is hoped that, in a field where there is no exact method, the one here proposed may aid consumers in selecting soaps fitted to their special needs and in writing specifications by which soaps may be contracted for. It is also hoped that it may lead to a more concordant judgment, on the part of manufacturers, as to what a normal soap is, and as to how far it is legitimate to vary from this normal soap. If some ready method of judging a soap is adopted, it may seem unprofitable both to maker and consumer to pay freight charges on water and fillers which are of no real detergent value.

The hot test may be relied upon to give results concordant within 1 per cent. for successive samples and within a much closer limit in duplicate tests of the same sample. The cold test is not as accurate as the hot test on account of the colloidal nature of the solution. It will probably grade soaps within 4 or 5 per cent. in the case of soaps whose solutions are very slimy, and within a closer limit in cases in which the solutions are mobile.

The working out of the hot test presented no particular difficulty, since the soaps worked with dissolve in hot water to give mobile solutions which readily flow through the pipette and can be readily duplicated. In working out the cold test, the method indicated was adopted only when other methods proved unsatisfactory. It is thought best to give an account of some of these attempts that may not find it necessary to repeat them without modification.

At first the solutions, prepared for the hot test, were allowed to cool, then poured upon a filter and the filtrate tested cold. But the first portion of the filtrate gives a lower drop number than the later portions, and even if all is allowed to drain off before testing, and in this way an average for the whole sample obtained, the drop numbers for successive samples is not at all concordant. These difficulties are probably due to the great variation in the solubility of the colloidal precipitate which separates, with small differences in temperature and to the slowness with which equilibrium is reached between the dissolved and undissolved colloid.

It was thought that by making the solutions more dilute, they might have a low enough viscosity, when cold, to flow through the pipette without filtering. This was found to be the case when the solutions contained only one part in 400 parts of water, but on testing several soaps of different classes in this way, they all showed nearly the same cold test and no comparison could be based on the results.

Another attempt was made by adding a solution of common salt to the soap solution and then filtering. It was found that when equal quantities of 2.5 per cent. sodium chloride solution were added to 0.5 per cent. sodium palmitate solution, that nearly all of the palmitate was precipitated and the filtrate showed only a small drop number. When the same salt solution was added to 0.5 per cent. oleate solution there was, at first, no precipitation and the drop number was *increased*. But the oleate solution with salt, on making successive tests, showed a rapidly decreasing drop number, making it impossible to use this mixture as a basis for a standard curve. The decrease in number of drops is very soon apparent, the solution becomes cloudy, and, in a few days, nearly all of the oleate appears to be precipitated, while the filtrates, no matter what the original strength, show a strong tendency to the same minimum drop number.—Journal of the American Chemical Society.

Trade Mark Decision.

The word "Velva" having been refused registration as a trade-mark in view of the word "velvet," previously registered for the same goods, an appeal was taken to the Commissioner of Patents, who has decided in substance following:—

The use of a mark by one person upon laundry soap will prevent the subsequent registration of that mark to another upon toilet soap, since there is no clear line of distinction between the two kinds of soap.

The fact that a registrant may not object to the subsequent registration by another is not of consequence, since the right to registration cannot be conferred by license from the real owner. The law authorizes registration by the owner alone.

Both parties use the mark upon soap, and there is no clear line of distinction between toilet soap and laundry soap. Some soaps are intended exclusively as toilet soaps and others are intended exclusively as laundry soaps, but there are still others intended for either use. It must be held that the goods are of substantially the same descriptive properties, although the specific goods in one case are said to be laundry soaps and in the other toilet soaps.

English Oil of Lavender.

John C. Umney writing in the Chemist and Druggist states that much genuine English oil of lavender now in market does not comply with the requirements of the British Pharmacopœia. "It is the custom," he says, "of the large distillers at Mitcham to separate lavender oil distillates into two portions, this separaton not being based upon any definite chemical characters, but upon practical experience, since the last runnings of the still are not so pleasant as the first, although the portions set aside as 'second runnings' are anything but uniform. It comes about, therefore, that many of the English oils are not normal distillates of lavender—that is to say, they are not the whole of the essential oil distilled from lavender, but in a sense fractional oils, which in many instances have a specific gravity below 0.885. In order to see whether there is any ground for a division and classification of these oils in the way that I have indicated, I have, by the courtesy of Messrs. J. & G. Miller, of Mitcham, Surrey, been allowed the opportunity of making observations upon oils of lavender of their production. Operating upon a charge of 1½ tons of lavender, freshly cut, with 1,200 gallons of water, and allowing the distillation to proceed for three hours (which is the usual time method adopted), and subsequently pushing the distillation to a finish, one is able to obtain distillates which are divided into two parts, the second fraction varying from 4 to 8 per cent. of the final oil obtained. I have in this way divided and examined oils distilled in the years 1901, 1902, and 1903, and the specific gravity of these oils, with their percentages of esters calculated as linalyl acetate, are set out in the subjoined table:

		Sp. gr. at 15° C. when first examined.	Present sp. gr.	Present percentage of Esters.
1901	1st distillate.....	0.881	0.886	6.2
	2nd ditto.....	0.884	0.889	7.3
1902	1st distillate.....	0.882	0.885	8.1
	2nd ditto.....	0.887	0.890	12.0
1903	1st distillate.....	0.881	0.881	8.2
	2nd ditto.....	0.889	0.889	12.0

From this it will be seen that the idea that the specific gravity of the oil increases on keeping which has been long accepted, is confirmed. When freshly distilled the so-called 'first runnings' rarely possess as high a specific gravity as is required by the British Pharmacopœia, although after keeping for two or three years an oil having an original specific gravity of 0.831 appears to rise to 0.885 or 0.886. It will be seen from the figures quoted that the percentages of esters contained in the second fractions is higher than in the first. This is what one would expect taking into consideration the relative boiling-points of the constituents, but, judged by the smell, in every instance the second fraction is decidedly less pleasant than the first, the selection of the products as practiced by the distillers being for trading purposes fully confirmed. In my opinion, the differences in these fractionated distillates, however, is due rather to the presence of decomposition products in the second. I have also had the opportunity of examining samples of lavender oil distilled from fresh lavender grown in other districts, having made observations for five years on the annual products from lavender grown on Sir Walter Gibley's estate at Elsenham, where the soil is strong clay with some chalk. The specific gravity of those oils (not divided into two portions on distillation) examined were as under:—

1897.....	sp. gr. at 15° C.	0.891
1898.....	ditto	0.889
1899.....	ditto	0.891
1900.....	ditto	0.888
1901.....	ditto	0.885

In every instance it will be observed that the specific gravities are as required by the British Pharmacopœia. From these characters and also from further observations, it would appear that soil has a distinct influence upon the characters of lavender oil, especially the specific gravity. I have been able to determine that the oil distilled from lavender grown at Warlingham, in precisely the same stills and in the same method as lavender grown at Mitcham, has a distinctly higher specific gravity. The soil at Warlingham is strong loam on clay, whilst the soil in the Mitcham district, upon which these particular observations were made, was light loam on chalk. There is also a little difference in the altitudes, although not anything really very material, Warlingham being about four hundred feet higher than Mitcham and Ewell, whilst Elsenham is about three hundred and sixty feet above sea-level." The author concludes that it would be better to reduce the specific gravity limit to 0.883; that this with other characters would still practically ensure an unsophisticated oil.

Assay of Oil of Cloves.

Thoms in a paper read at the last meeting of the Society of German Naturalists and Physicians, described a modification of his method for the determination of eugenol in oil of cloves. This modification was devised because recent researches on the composition of the oil have shown that, in addition to eugenol and caryophellene, which were formerly considered to be its only constituents, the oil contains furfurol, amylmethylketone, benzoyleugenol, aceteugenol, acetsalicyleugenol, and methylheptylketone. The new procedure is as follows: Five grams of the oil are mixed with 20 grams of a 15 per cent. solution of caustic soda warmed on the water bath for half an hour, and transferred to a

separator. The alkaline solution is run off into a beaker, and to it is added the alkaline washings of the sesquiterpene layer. Six grams of benzoyl chloride are now added to the beaker, and the whole warmed until the formation of benzoylengenol is complete and the excess of benzoyl chloride decomposed. After cooling, the liquid is poured off from the esters that have separated and solidfied, and the latter are washed with 50 c.c. of water, any crystals that may have been carried over during the process being returned. The crystalline cake is washed twice by melting it with water, shaking gently and cooling; 25 c.c. of alcohol (90 per cent.) are then added to the moist precipitate and the mixture warmed and cooled with constant agitation, so that the benzoylengenol separates in small crystals. These are transferred to a filter, drained and washed with alcohol until the filtrate measures 25 c.c.; they are then dried and weighed. For the 25 c.c. of filtrate a correction of 0.55 gram of benzoyleugenol has to be made. Analyses made by the author show that the process is accurate. In conclusion Thoms points out that eugenol when quite pure has but an extremely slight odor, the aroma of clove oil being due to esters.

An English View of American Soap Exports.

Under the title "British Industries Under Free Trade" a book has just appeared in England which, among many other industries, touches upon the manufacture and sale of soap. The remarks on soap in particular as from the pen of Mr. A. H. Scott, are as follows:

"The soap manufacturing industry of the United Kingdom has nothing to hope for, but much to fear from, any system of preferential tariffs. * * * * There is no doubt that the American soap manufacturers are as well equipped and have men quite as capable as our own at the head of their trade. * * * But although they have tried for years to capture the world's trade in soap, they have, with the exception of a few isolated instances, where heavy advertising has secured them problematical successes in Europe, so far only established a small regular export trade in ordinary soaps in the West Indies, whilst all other markets are practically supplied with soap made in Free Trade England. * * * The amount of soap imported into the United Kingdom is only a small percentage of the total amount consumed. * * * For the same year (1900), the soap manufactured in the United Kingdom for home consumption can be safely estimated at 2,600,000 cwt., and the Board of Trade returns show exports of 874,214 cwt., making a total of 3,474,214 cwt.

"Hence the imports, during 1900, of 191,233 cwt., are only equal to 7½ per cent. of the soap manufactured in the United Kingdom, or to 22 per cent. of the soap exported from the United Kingdom."

Mr. Scott then touches upon the raw materials of the industry. He points out that palm oil is exclusively an export from the West Coast, and so-called south coast of Africa. "Cottonseed, as well as some of the cottonseed oil, is a product of the United States of America. The larger quantity of cottonseed crushed in the United Kingdom at the present time, however, comes from Egypt, and some small quantity also comes from India.

"Cocoanut oil is used, roughly speaking, in three qualities, namely, Cochin oil, Ceylon oil, and Copra oil. The first two speak for themselves as regards their origin. Copra oil is manufactured in the United Kingdom, but quantities are imported from France (Marseilles), and Germany (Hamburg). The same may be stated with regard to palm kernel oil. Although this oil is produced from the imported kernels, to a certain extent in the United Kingdom, a large quantity is imported from the two ports mentioned above."

As regards tallow, he gives statistics of the past ten years to show that "no matter through what cause, the supply of Australian tallow has been decreasing of recent years, while the supply of South American, of equally suitable quality, is an increasing one. The price is from £2 to £3 less per ton. Argentina is willing to supply us at a lower price, and our Australian colonies are not satisfied with £2 and £3 per ton more, because they live in a country affected by droughts.

"The whole question of materials resolves itself into the fact that *for tallow* we are better served by outsiders than by our colonies. *For palm and other oils and resin* we can only be unfavorably affected by any protective tariff. Any interference with the free imports of raw materials would seriously handicap the soap-manufacturing industry of this country, and, if the duty were high, would probably destroy the export trade."

Detection of Soap and Saponifiable Matters in Mineral Oils.

The following new methods for the detection of soap and saponifiable matter in mineral oils have been worked out at the research laboratory of Messrs. Nobel Brothers, in St. Petersburg, by Hr. A. Knutsen. These methods, as our readers can see, are very simple indeed and easily applied.

SOAP SOLUBLE IN WATER (ALKALI SOAPS.)

Take of the oil in question, 10 c.c. in a test tube, and add to it 10 to 15 drops of distilled water, heat it over a Bunsen flame or a spirit flame to about 80° C., under continual shaking. When the above-mentioned temperature is reached, the tube is still vigorously shaken two

or three minutes, and then placed in a vessel filled with hot water. If the sample contains soap, the latter will soon separate together with the added water on the bottom of the tube.

As the result of a large number of experiments, I can state that, by this test, as little as 0.1 per cent. of soap may be detected. The separated water will, of course, only be turbid for 0.1 per cent. If the sample of oil is very thick, for instance, engine oil, cylinder oil, or grease, a solution is first prepared from the oil or grease in pure kerosene or solar oil. Take from the thin oil in a test tube 10 c.c., add to it 10 to 15 drops of distilled water, and operate as above.

It is to be remarked that the precipitation of soap is nearly complete, so that the test may be applied for approximate quantitative determination of soap.

SOAP INSOLUBLE IN WATER (SOAPS OF THE EARTHS AND THE HEAVY METALS.)

Ten c.c. of the mineral oil are placed in a test tube with a piece of caustic potash (KOH) or caustic soda (NaOH) of the size of a pea, add to the contents 10 to 15 drops of distilled water, heat over a Bunsen flame, or a spirit flame, to about 80 degrees C., under continual shaking of the tube, till the caustic soda or potash are all dissolved. When the solution is complete, the shaking is continued for two or three minutes, and the tube placed in a vessel filled with hot water. The soap, as well as the added water, and the surplus of potash or soda precipitated. If the oil in question is too thick, it is first prepared a solution from it in kerosene, or refined solar oil, and the solution treated as above.

DETECTION OF FATTY OIL IN MINERAL OIL.

Take in a test tube 10 c.c. of the oil, add to it 10 to 15 drops of distilled water of the size of a pea, heat to about 83 degrees C. by energetically shaking the tube till all the alkali is dissolved. After dissolving, the shaking is continued for some two or three minutes, and the tube placed in hot water. The fatty oil is now saponified, and the formed soap precipitates together with the added water and the excess of alkali.

By applying this test, as little fatty acid as 0.1 per cent. may be detected. If the oil is very thick, it must be thinned with kerosene or refined solar oil, and the solution treated as above.

The Oil Palm in Pemba and Dahomey.

The value of oil palm kernels exported from Pemba during 1902 was £550. The products of the oil palm should, however, take much more important rank among the exports of the island than is at present the case. The Pemba variety of oil palm, which grows wild and in abundance all over the island, to which, apparently, it is indigenous, differs from the West African species (Elœis Guineensis) in having for its inflorescence, not a spike, but a raceme. The fleshy thalamus, in which is embedded the seed, yields, when ripe, in the case of the Pemba variety, as in that of the West African species, an oil which should prove a valuable commercial commodity. The inhabitants of Pemba are ignorant, apparently, of the method, as employed on the West Coast of Africa, for extracting the oil from the pulp of the ripe fruit. Indeed, the oil palm is almost completely neglected in Pemba, no attempts being made either to care for the existing trees or to plant others. Yet, as is well known, systematic cultivation of the oil palm has proved the financial salvation of various places on the Gold Coast, and in the Bight of Biafra. The Zanzibar government would be doing good service to Pemba by encouraging the systematic cultivation of the oil palm, by making known to the inhabitants the method of extracting therefrom its oil, and by taking the necessary steps for introducing into the island the species of palm oil which has proved itself so valuable equally well in Pemba. To form an idea of how this industry might bedeveloped, it is only necessary to note the following few points concerning the palm-oil trade of Dahomey. In 1902 Dahomey exported £510,730 worth of palm oil and kernels, of which £162,392 worth went to France, £291,486 worth to Germany and German colonies, and £56,852 to the United Kingdom and British colonies. The continental trade is more profitable, hence the small share taken by the British Empire. The export shows a considerable increase over that of 1901. A light railway is to be constructed for transporting the barrels, which have hitherto been moved from place to place by natives, who roll them along the bush paths. The merchants of Porto Novo, finding that the kernels brought by the natives for sale were being increasingly adulterated, came to a private arrangement among themselves in the year 1900 to provide for the inspection of all kernels before buying them. This private arrangment was legalized by a decree of the government. It provides for a service of inspection consisting of a chief inspector and a certain number of inspectors whose duty is to examine all kernels brought into Porto Novo or Kotonou, and give them a certificate of purity, which is refused when more than 5 per cent. of foreign matter is found. Kernels that have been refused must be picked over before being again presented for inspection. The inspection staff is chosen, controlled, and paid entirely by the merchants. The inspectors are punishable by law for not carrying out their duties. Sellers are punished for evading or refusing inspection, and in the latter case the public forces can be used to enforce compliance. The flaw in the arrangement is that, although penalties are provided against sellers, there is no punishment for firms which buy adulterated kernels in defiance of the agreement. On the whole, it would be better if the entire matter

were taken over by the government, as has been done in French Guinea, so that, if necessary, inspections could be made at bush centers instead of, as at present, at the coast market, where it is chiefly the middleman who suffers, whereas the native producer, who is largely responsible for the adulteration, is untouched, and, quite possibly, does not even know that any regulations exist.

Sale of a Trade Mark.

By reason of a recent decision of the commissioner of patents wherein interference proceedings in connection with the registration of a trade-mark were annulled, attention has again been called to the fact that a trade-mark right cannot be transferred as an abstract right. It cannot be sold apart from the article upon which it is used, the reason being that such a transfer would be productive of fraud upon the public.

Covering this point, the United States supreme court has also ruled that as distinct property, separate from the article created by the original producer or manufacturer, a trade-mark may not be the subject of sale. But when any trade-mark is affixed to articles manufactured at a particular establishment and acquires a special reputation in connection with the place of manufacture, and that establishment is transferred either by contract or operation of law to others, the right to the use of a trade-mark may be lawfully transferred with it. Its subsequent use by the person to whom the establishment is transferred is considered as only indicating that the goods to which it is affixed are manufactured at the same place and are of the same character as those to which the mark was attached by its original designer.

It is held by the commissioner that where a party claims the right to trade-mark registration by assignment from the owner of the trade-mark, yet should that assignment not purport to transfer the business as well, then the applicant is not the owner and is not entitled to registration, as a trade-mark cannot be transferred without a transfer of the business.

Duty on Soap.

An opinion was handed down last month by General Appraiser I. F. Fischer, of the Board of United States General Appraisers, making a distinction between soap used for cleaning and disinfecting railway cars, refrigerators and public buildings and soap used for the body as a disinfectant or medicinal article. The decision sustained a protest of W. A. L. Vogt, of New York, against the action of the collector of customs.

The merchandise is what is known as "sacarbolate," and was assessed for duty at 15 cents per pound as a medicinal soap. The article is used exclusively for scouring purposes, and, according to the finding of Mr. Fischer, differs from soaps which are used for disinfecting personal clothing, inasmuch as such soaps are indirectly used for the comfort and health of the body.

The importers claimed the merchandise should be classified under paragraph 72 of the tariff act, as soap not specially provided for, assessable at 20 per cent. ad valorem. The decision of the board sustained the protest and the collector was notified to liquidate accordingly.

Candles in Honduras.

A reduction of the customs duties on candles is reported by the United States consul of Puerto Cortes. The duties now are: Stearin, 10 cents (Honduras currency) per kilo., formerly 30 cents; wax, 20 cents (Honduras currency) per kilo., formerly 60 cents; tallow, 6 cents (Honduras currency) per kilo., formerly 20 cents.

Adulterated Citronella Oil.

BY ERNEST J. PARRY AND C. T. BENNETT.

A shipment of citronella oil recently imported has been examined, and disclosed an adulterant which, although easily detected on analysis, is of a very dangerous nature when an oil is sold as a "Schimmel's test" contract and is only examined in reference to its solubility. The adulterant was alcohol, which was present to the extent of 20 per cent., and had probably been added in order to make an already adulterated oil soluble, and thus pass "Schimmel's test." The oil had the following characters:

Sp. gr.	0.899
Optical rotation	—12°
Refractive index	1.4578
Geraniol value, per cent.	50

On distillation under reduced pressure the oil commenced to boil so rapidly that the vacuum was broken and the distillate carried out at atmospheric pressure. Twenty per cent. was obtained in a steady stream, with the thermometer constant at 82-83 degrees, after which it rapidly rose. The distillate was soluble in water to the extent of 95 per cent., the remaining 5 per cent. being oil mechanically carried over. The liquid at once yielded a large quantity of iodoform when treated in the usual manner, and boiled practically constantly at 80 degrees. It was, therefore, clearly alcohol mixed with some water, as probably a strong spirit had been used for the adulteration.

Full particulars of the test for adulterated citronella oil, devised by Mr. Kelway, Bamber, agricultural chemist to the government of Ceylon, have been forwarded to us, and we hope to make experiments with it in the course of the next few weeks. It is obvious that the adulterant above described—viz, alcohol—would not be detected by this test, and it may be found that substances like resin-spirit or Russian petroleum could not be detected in

small quantities, since these bodies are freely soluble. It is, at all events, highly improbable that a quantitative determination can be made in citronella oil and in mixtures of citronella oil and alcohol of the specified strength. The test depends on the solubility of the adulterant in the fixed oil being greater than its solubility in the mixture of citronella oil and alcohol of specified strength. We are glad that steps are being taken to insure the purity of this oil, and hope that the supply of citronella oil in future will be above suspicion.—Chemist and Druggist.

A Fable.

A duck which faithfully stuck to business during the summer and laid several dozens of large fawn-colored eggs, complained that she wasn't appreciated. "See that hen over there," said the duck; "she hasn't laid as many eggs as I have, nor as big, but she has books written about her and verses composed in her honor, while nobody is saying a word about me." "The trouble with you is," said the wise rooster that was standing near, "that you don't tell the public what you have done. You lay an egg and waddle off without saying a word, but that sister of mine never lays one without letting everyone in the neighborhood know about it. If you want to cut any ice in this community you must learn to advertise."—*Ex.*

From A Fellow Sufferer.

The Southern Drug Journal writes:

The man who does not enclose a stamp for reply sometimes loses the stamp which the government requires him to put on his letter of inquiry, to say nothing of the trouble of writing and the anxiety of waiting which he goes through. The other day we received a letter to be forwarded to one of our contributors. The contributor opened and read the letter and in writing to us about another matter enclosed it, endorsed, "No stamp; no reply." The writer had asked for information which would have been of value to him but the giving of which would have occupied the time of a very busy man who had no interest in the matter whatever. Some anxious inquirers have learned the trick of avoiding wasting a stamp on their own letters, by writing a postal card. It is to be hoped that the littleness of such a proceeding does not occur to them, but it is feared that some of them get on the one-cent basis with meanness prepense. We once heard an axiom which it is hard for us to forget, and this is it: "Postal cards require no answer." These cards have a use, but if there is any exception to the rule quoted, it does not occur to us at this moment. Perhaps the meanest man of all, however, is the one who tries to take advantage of the offer of a free sample copy of a publication, to get hold of a certain special number which he wants and is too stingy to buy, and who writes for it on a postal card. At a convention of druggists which we attended many years ago, a picturesque old mountaineer made the speech of the occasion, one of his epigrams being to the effect that some members of the calling were so narrow that they could look down the neck of an ordinary bottle with both eyes at once. The no-stamp-for-a-reply and the postal card men could use in this way the six-dram panel variety.

American Minerals.

The Census Bureau publishes the following figures:

Soapstone and Talc.—There were 20 mines or quarries in this industry, with 20 operators, under ownership as follows:—Individual, 4; firms, 3; incorporated companies, 13. Additional details were as follows:—Number of salaried employes, 75; total salaries, $63,715; average number of wage earners, 771; total wages, $279,083; cost of supplies and materials, $125,932; miscellaneous expenses, $80,136; product, 97,563 short tons valued at $1,138167 exclusive of 390 short tons valued at $2,340 reported with mineral paints.

Borax.—There were 6 mines and quarries returned in this industry with 6 operators, all of which were incorporated companies. Additional details were as follows:—Average number of salaried employes, 14; total salaries, 18,128; average number of wage earners, 153; total wages, $114,865; cost of supplies and materials, $213,538; miscellaneous expenses, $47,606; product, 19,142 short tons, valued at $2,383,614, divided as follows: Crude, 2,600 short tons, valued at $91,000, and refined, 16,542 short tons, valued at $2,292,614.

Fuller's Earth.—There were 4 mines in the industry, with 14 salaried employes and 114 wage earners. The product was 11,492 short tons, valued at $98,144.

Infusorial Earth, Tripoli and Pumice.—There were 11 mines and quarries in operation during the census year 1902 in this industry. There were 10 operators, the character of ownership being as follows:—Individual, 3; firm, 4; incorporated companies, 3. Additional details of the industry were as follows:—Number of salaried employes, 8; total salaries, $4,016; average number of wage earners, 35; total wages, $13,682; cost of supplies and materials, $2,297; miscellaneous expenses, $2,263; product, 6,415 short tons, valued at $55,994. This does not include 175 short tons, valued at $1,436, mined as a by-product in the production of soapstone and talc.

PATENTS AND TRADE-MARKS.

The following list of recent Patents and Trade-Marks is reported by W. G. HENDERSON, Solicitor of American and Foreign Patents and Trade-Marks, Norris Bldg,, Washington, D. C. A copy of any of the following will be furnished by him for 15 cents.

PATENTS.

744,150. Soap Frames. Henry D. Winton, Wellesley Hills, Mass., assignor to Hersey Mfg. Co., South Boston, Mass.

746,984. Apparatus for manufacturing soap. Alfred Flagendorf, Pittsburg, Pa.

747,108. Apparatus for extracting grease. Scott L. Holff, Philadelphia, Pa.

TRADE-MARKS.

41,897. Lard, Tallow, Lard Compounds, and Substitutes for Lard. Cudahy Bros. Co., Cudahy, Wis. The representation of a peacock and the word "Peacock."

41,898. Vegetable Oil-Cake. F. G. Kinney & Co., New Orleans. La. The figure of an open hand with the words "The Open" arranged adajacent thereto.

41,899. Soap. Frank O. Ives. Cheshire, Conn. The word "Quick O." arranged as shown—i. e., the first and last letters of the word being capitals.

41,952. Laundry Bluing. The Laundry Blue Company, Chicago, Ill. The compound word "Wiggle-Stick."

41,988. Perfumes. Selwyn Importing & Trading Co., New York, N. Y. The words "La Feria." associated with the representation of a Spanish dancing woman holding a tambourine in one hand.

41,989. Perfumes. Selwyn Importing & Trading Co., New York, N. Y. The word-symbol "Tintoret" and a medallion displaying a female head and inclosed in a florentine scroll.

41,990. Soaps. Raymond Chemical Co., New York, N. Y. The word "Benzobalm."

41,991. Scouring-Soap. Frederick C. Bargar, Columbus, Ohio. The hyphenated word "Ne-Ces-Te."

41,992. Cleaning Compounds for Cleaning and Scouring. John A. Buck. Kosciusko, Miss. The words "Creole Girl's Delight," together with the representation of the head and bust of a girl.

LABELS.

10,740. Title: "Hill's Popular Pink Penetrating Hand Soap." (For Soap.) Royal C. Hicks. Worcester, Mass.

AROUND THE SOAP FACTORIES.

News-items sent us by our readers will find prompt attention in this column

Ellery W. Whitney, formerly dealer in soap and oils, of the firm of Angler & Whitney, Arlington, has filed a petition in bankruptcy. He owes $7,345.22; assets $1.

The factory of the Marinette Soap Co., recently sold out, is being dismantled.

The Home Soap Co. at Millbury, Mass., has come out ahead in its fight with the Grafton country club, the Board of Health having refused to revoke the license granted the firm. So far, so good.

Incorporated: Beatrice Manufacturing Company, Portland, Ore.; capital $10,000. J. J. O'Malley, W. C. Manchester and W. S. Hufford, incorporators; will make soap.

California will install an olive oil factory in the California space in the Agricultural building at the World's Fair. The process of extracting the oil will be shown in detail.

The Southern Cotton Oil Co., on the other hand, intends to exhibit a cottonseed oil mill in full operation.

Incorporated: John N. Hinkle Company, Columbus, O.; capital, $100,000. John N. Hinkle, David C. Beggs and others, incorporators. To make soap, carpet stretchers and pipe wrenches.

Charles Zichter, a workman in Meyer's soda works at New Baltimore, Mich., was frightfully injured by falling into a kettle with boiling lye.

The O'Neils Oil & Paint Co. of this city will erect works for the manufacture of soap chips, having increased their capital stock to $150,000 for the purpose.

A. C. Mulford is the head of a party organizing a company to manufacture soap at Laramie, Wyo., and Hastings, Neb.

Incorporated: The Oilseeds Company, of Croton, Westchester county, N. Y., to deal in oils, soaps, etc. Capital, $350,000. Directors: F. J. Dunham, W. G. Dunham and P. R. Steele, of New York city.

A German colonial government committee recently offered a prize for an efficient machine for extracting palm oil. German manufacturers have taken part in this competition, and the prize has been adjudged to a

Berlin firm of machine manufacturers named Haake. By means of the Haake machine the yield of oil is more than doubled. The nuts contain on an average 22 per cent. of oil. It is said that under native methods only 7 per cent. of this is collected; by means of the new machine the yield is increased to 15 or 18 per cent.

The works of the H. J. Callahan Soap Co. at Green Bay, Wis., recently damaged by fire, are being restored and an addition is contemplated also.

Incorporated: Cleveland Oil Soap Company, Cleveland, O.; capital $5,000. Edwin A. Arthur and others, incorporators.

The Wadhams Oil & Grease Co., of Milwaukee, capitalized at $100,000, has been succeeded by the Wadhams Oil Company, with a capital stock of $350,000. There will be no change in the officers or the management of the business. The officers are: E. A. Wadhams, president; George L. Graves, vice-president and treasurer, and George A. Streeter, secretary.

A daily or a half-weekly market report on tallow, grease and oils is offered our readers by R. C. Jacobsen of Chicago in his advertisement on another page. Look it up.

The Ehrenfried Soap Co. of Tiffin, Ohio, has been re-organized, with a capital stock of $60,000 and is preparing to push business.

The report that J. O. Draper & Co. of Pawtucket, R. I., had sold out their soap business to Swift & Co. was a false rumor. The sale of their grease collecting teams to Swift & Co. was all that gave rise to the report.

Stephen Bowles Colgate, son of Bowles Colgate, who, with William Colgate, was the founder of the house of Colgate & Co., died on February 10. Owing to ill health he had not been in active business for some years.

Proctor & Gamble Company, Cincinnati, O., has installed a water softening plant having a capacity of 35,000 an hour. It purifies all the water used for feed purposes in the boiler house, which supplies the steam used in the manufacture of soap and candles, as well as that required in the refining of cottonseed oil and glycerin.

Kansas City, Feb. 12, 1904.—If a conference being held at the Coates house to-day between soap manufacturers and representatives of the Wholesale Grocers' association of Kansas, Oklahoma and the Indian territory is successful, no more common soaps will be sold in Kansas and the two territories at eight bars for twenty-five cents and at other similar cut rate prices.

The object of the conference is to arrange a plan whereby common soap prices can be held on a steady basis. No general rise or decline in the prices of these soaps is contemplated.

Frank Woods, of Wichita, president of the Kansas Wholesale Grocers' association; William Davis of Topeka, a member of the executive committee of the Kansas organization, and W. E. Edgar of El Reno, Okla., who will look after the interests of the wholesale grocers in the territories, are attending the meeting. Among the soap men present are Milton W. Kirk of Chicago and his secretary, George Schroeder; W. Thatcher Smith, general Western representative of the Kirk company; William Peet of Kansas City, C. C. Walker of Denver, E. Strauss of Omaha, representing the Cudahy soap interests, and W. A. Miller of Chicago.

The wholesale grocers of Kansas and the territories have been discussing the soap question for several months, and they have met at the Hotel Baltimore several times to talk over the situation. Some of the grocers have claimed that others were favored by the soap manufacturers in such ways that they could sell soap at reduced prices and thus enable retailers to demoralize the trade.

The Newburgh, N. Y., "News" has the following:

"A year ago last summer a number of Peekskill men were induced to subscribe heavily for stock in the Medicura Soap Company upon representation by the promoters that they would erect a large factory in the village and provide employment for hundreds of men and girls. The Peekskill papers said that Medicura soap would be the making of the town and prominent citizens, who investigated the proposition, so far as they could, talked up the industry for all they were worth. The Peekskill men parted with their spare cash, receiving therefor a miscellaneous assortment of common and preferred stock. Eighteen months have now passed, and there is no sign that the promoters of the company ever intend to manufacture Medicura soap or anything else in Peekskill.

"The Peekskill 'News' says: 'We have talked with a number of those who invested in the stock of the Medicura Soap Company, and almost without exception they have hard words to say concerning the present state of affairs. They declare that the entire thing was a fake from the start and the promise to erect a factory in Peekskill was only bait to lead investors to put their money into the scheme.'

"Peekskill has learned a lesson that many other towns through the country have learned. A Western town of

about the same population as Newburg three years ago started out with a great hurrah to build up its industries. Promoters of a seamless tube concern, alleged to have been independent of the steel trust, came along and offered to locate a mill in the town that would employ a thousand skilled workmen if citizens would subscribe for $100,000 worth of stock. They took the stock and the company went so far as to erect a cheap building or two and make a pretense at getting ready to operate. Within a year the doors and windows of the buildings were nailed shut, the company went into the hands of a receiver and the local stockholders have some experience as the sole return for their investment."

The warehouse of the American Witch Hazel Company, at Chester, Conn., was burned with its contents, including about 400 barrels of witch hazel extract. The building was of wood, two and one-half stories high, with a large wing. Ten new stills had just been added to the building.

Pennsylvania papers are full of contradictory accounts of a murderous assault upon a soap salesman said to be named John G. Bechtel. No further details are available, as all the accounts are palpably incorrect in details and therefore quite unreliable. It happened in Scranton on February 19 and the local paper from which other reports are copied, stated that the critically injured man was agent for the "Boston & Gamble Soap Co. of Pittsburg." There is evidently a sad story at the foundation of these reports, but the exact facts we have not had time to ascertain as yet.

The Tripoline Manufacturing Co. is having plans prepared for a new soap factory to be built in Beaumont, Texas.

A fire in Chicago on February 19 destroyed a building occupied in part by Enoch Morgan & Sons as a storage place.

Cincinnati, Ohio: The Lemola Soap Company and others, of Los Angeles, Cal., brought a suit in the United States Circuit Court against the Eureka Soap Company, of this city, for the alleged infringement of a patented method of making soap from lemons and for the alleged use of a copyright trade-mark. The usual accounting and perpetual injunction are asked for.

The Markets.

TALLOW.—In New York, city tallow last sold at 5¼c in hhds., with an advance asked for further lots. Prime country 5¼ to 5⅜c as to quality, with but small supply. City rendered, at Chicago 5⅜c.

GREASE.—House and bone 4¾ to 4⅞c; Yellow 4¼ to 4½c; "B" white 5c.



When your soap machinery bears this mark, nothing but SATISFACTION can come of its use.

Correspondence a pleasure.



H. W. DOPP CO., 1300-1310 Niagara St.,

BUFFALO, N. Y., U. S. A

COCOANUT OIL.—Ceylon 6¾ to 7c for spot, 6½c for early arrival; Cochin 7 to 7¼c asked for spot and 6¾ to 7c for March arrivals.

CORN OIL.—4.40 for car lots; market firm.

OLIVE FOOTS.—5 to 5⅛c for ordinary grade, and ½c advance for choice grades.

PALM OIL.—6¼ to 6⅜c for red; 6½ to 6⅝c for spot Lagos.

Additions to Our Brand List.

346 Beaumont Soap Co., Mayfield, Ky.
347 Lockwood Soap Co., Kansas City, Mo.
348 Oklahoma Soap & Oil Co., Oklahoma City.

Allpine Tar 337
Ammonaptha 347
Bestever 286
Big Injun 348
Bi-Naptha 348
Bleachem Soap 341
Breath of Heliotrope 337
Breath of Lilacs 337
Breath of Roses 337
Breath of Violets 337
Brightshine 106
Cream Naptha 343
Coaster 32
Egg Tar; Lee Specialty Co., Detroit, Mich.
Gasene 106
Gasoline Laundry Soap 120
Gray-beard 348
Green Oil Soap 341
Home Pride 347
India Castile 337
La Platte 337
Lily Blossoms 337
Marigold 106
Milo 106
Monahan's Green Soap 341
Naptha Washing Powder—(for Canada) W. H. Judd & Co. Hamilton, Ont.
O. K. Tar 348
Oilex 348
Orchid Blossoms 337
Oriental Tar 337
Papoose 348
Polar Bear 106
Pow Wow 348
Queen Regent 337
Quo Vadis 337
Raven Tar 337
Rio Grande 337
Rose Blossoms 337
Snow Float 348
Summer Blossoms 337
Sunburst 106
Tar Egg 347
Tarlex 348
Top Notch 106
Transparent Brilliant 337
Transparent Rose 337
Veribest 286
Violet Blossoms 337
Yellowstone 106
Cricket Soap Powder; Davis & Marston, New York City.
Soapex; W. R. Hollingshead Co., New York City.
Aquidneck; F. P. Garrettson & Co., New York City.
Hasn't Scratched Yet; Bon Ami Co., New York City.
Red Hot 38
Bauty 32
Wheel 32
Blo-Re-Mo 333

DAILY MARKET REPORTS
ON
TALLOW, GREASE,
OILS, ETC.

Send for free sample copy of our **Daily Tallow Bulletin.** Mailed daily or thrice or twice weekly as desired. Honest, impartial and valuable. Well posted men make more money than men who are not posted. Many soap manufacturers take our Bulletin regularly.

R. C. JACOBSEN,
154 Lake Street, Chicago.

Our Process of Drying and Impregnating

saves you 90 per cent in time, space and steam, interest and insurance, recovers valuable solvents in the same operation and is the most economical method throughout. Suitable for all materials.

Results Guaranteed Estimates Furnished

American Vacuum Drying Machine Company
Alex. P. Mende, President 120 Liberty St., New York

SUPPLEMENTARY LIST

OF THE

BRANDS OF SOAP MANUFACTURED IN THE UNITED STATES

Including also the Brands of Foreign Manufacture Registered as Trade-Marks in this Country.

NOTE: This list is compiled with the greatest possible care, but the publisher does not assume any responsibility other than to correct and to complete the list according to data obtained from official sources or furnished by the trade. Brands registered in the patent office as trade-marks or labels are given with the name of the party registering same. Brands or names marked * are those which were found to be used by more than one firm or the owner of which could not be ascertained. ☞ SEE THAT ALL YOUR BRANDS ARE ENTERED IN YOUR NAME.

3—Liberty Mfg. Co., Chicago.
344 Home Soap Co., N.Y.
345 Columbia Ref'g. & M'f'g Co. Ltd., New Orleans.

Abrado, Floridine Mfg. Co., New York.
A Happy Home 4
Alabama Tar 3
All-need it 286
Amazon Coco 337
Amber Rose 346
Anchor Castile 3
Angelus 54
Antelope 3
Antillia 2
Anty Up 340
Apple Blossom 337
Atoka 346

Baby Mine 8
Bannock 3
Beauty Belle 151
Beanmont's Shaving 346
Beef Oil 340
Bell's Brown 343
Bell's Naphtha 343
Ben Hur 3
Bicycle 3
Big Glycerine 3
Billy-Goat 340
Blossom Bouquet 3
Blue Chip 340
Blue Cloud 2
Blue Coco 340
Blue Family 340
Blue Monday 340
Blue Olive 340
Boast 3
Botica Francisca 3
Bouquet Chic 3
Bonquet Reverie 3
Brazilian Bath 3
Bunny—Hewitt Bros. Soap Co. Dayton, Ohio.

Calcutta Castile 337
Calumet 3
Camille 3
Ceske Slovonsky 3
Ceske Polski 3
Chlorine 340
Cleaneasy 286
Climax Chip 54
Cloth Pin 340
Cloths Pin 340
Coa Nut 346
Coca Foam 3
Columbia 3
Conto & Elroy Castile 3
Credential Shaving Stick 16
Crown Princess 337
Crystal Honey 346
Crystal Sulphur 3
Crystal Palace 3
Crystal Transparent Tar 3
" " Carbolic 3
Cuban Rose 3
Cuta Alba 3
Cnltoderma Medicated 3
Cycle 3

Dactylis 11
Dermicura 327
Diadem 3
Druggist's Transparent 3
Dr. Allens Medicated 3
Durango Best, Durango (Colo.) Soap Co.

Elk's Bouquet 346
Empress Eugenie 115
Empire Geranium 337
Eucryl Eucryl Ltd., Hull, England.
Eureka 3
Evergreen 286
Expert 286

Facine 340
Fairbank's Primrose 2
" Scouring 2
" German Fam. 2
" Glycerine-Tar 2
" Mottled Germ'n
" Olive 2
" Navy Blue 2
Federal Family 1
Floral Feast 115
Flannel 2
Flip 345
Force, Cincinnati Soap Co., Cincinnati, Ohio.
Fragrant Honey 2
French Violette 3
Frog 340

Gem Wash, Componnd, Clara Pearce, Philadelphia.
Georgia Oleine 29
Geronne Violette 3
Geyser 343
Giant 3
Gloriola 29
Glycerated Tar 346
Glycerderma 3
Golden Rose 3
Gold Seal Soap Flour 340
Goodhair, Goodhair Remedy Co., Newark, Ohio.
Green Olive Chip 340
Green Palm 340
Green Seal Chip 340
Gusher 340

Hard Maple 155
Heliotrope Blanc 3
Heliotrope Ideal 334
Helix 54
Hi Lo 96
Home Castile 3
Horse Oil Harness 340
Hots Springs Bath 3
Hy-Lo 96

Ideal Bouquet 3
Ideal Family 3
Idyllwild 54
I-Lika-U 286
Ilo-Ilo 340
Imperial Crown 3
Iroquois Maiden 115

Jack & Jill 340
Jack Pot 340
Japanese Bath 3
Jerone Bouquet 3
Jewel 2
Jus de Framboise 3

Kaska Bouquet 346
Kazan 343
Kimola, Bell Mg. Co., St. Louis, Mo.
King Solomon's Rock Oil S. Mnross Jenkins, N. Y.

Lakeside (Scouring) 2
La Mariposa 54
Lamsuet 3
Lasco Napthol 54
Last Long 286.
La Virtho, John S. Nichols, New York.
Le Fameux 16
Le Fameux Rosc de Seville 16
Le Fameux Violette de Sevill 16
Le Fameux Peau d'Espagne 16
Le Fameux Jockey Club 16
Lemola Toilet, Lemola Soap Co., Los Angeles, Cal.
Lemolive 54
Lemonine, E. H. Kraut, Cincinnati.
Lettuce Cream 3
Libertys London Transparent 3
Liberty's Quartette 3
Liberty's Genuine Bouquet 3
Limberine, E. A. Warren, St. Paul, Minn.
Lion 2
Lisette 3
Little Sweetheart 346
Llama 3
Long Shot 345
Lotus Bouquet 3
Lotus Honey 3
Lotus Glycerine 3

Madeira 16
Madeira Almond Cream 16
Madeira Cncumber Cream 16
Madeira Lettuce Cream 16
Madeira Olive Cream 16
Marjorie 337
Marveline 300
Marvelo, Natioval Process Co., Rochester, N. Y.
May Field Bouquet 346
kina Skin 346
Maxine Elliott 337
Medical Lake 3
Medicated Witch Hazel 3
Mentholatum Corn Oil S. 169
Mexicano 54
Michigan Family 2
Mildred 337
Millens Cream 3
Millens Toilet 3
Millens Antiseptic 3
Millens Tar 3
Miners Tar 3
Milk Bath 3
Monroe 3
Moss Rose Borax 3
Mox-Nix 340

Naphtha Toilet 340
Naphthal 340
Napthol 340
Naptholive 340
Naptha Washing Powder—Hunt Mfg. Co., Cinciunati, Ohio.
Natural Gas 340
Next-To. Phoenix Chem'l Co. New York.
Nolabor 340
Northern Star 3
Noxlabor 340
Noxwork 340
No. 81 White Rose Glycerine 3
No. 3725 White Rose Glycerine 3
No Name 3

Old English Brown Windsor 346
Old English Blue 3
Old Linen 3
Old Time Tar 3
Olive Bath 3
Orinoco 337
Orris Unscented 337
Otis Lightning, C. H. Waterhouse, Essex, Conn.
Our Baby's Bath 3
Our Own 3
Our Special 3
Oxolive 340
Oxigen 340
Ox Oil 340

Palmo 340
Palm Oil S. Powder 340
Palm Soap Flour 340
Parisian Toilet 54
Passion Rose 298
" Violet 298
" Pink 298
" Lily 298
Peace 340
Peach Blue 340
Peerless Country Club 337
Peerless Forest Violet 337
Peerless Lily of the Valley 337
Peerless New Mown Hay 337
Peu Yen 340
Perfecto 121
Plantol Lever Bros., Limited Port Sunlight, England.
Poncine Erasive 3
Pony Up 340
Popular Blossom 3
Premium, Davenport (Iowa) Soap Co.
Premium W. Powder, Davenport (Iowa) Soap Co.
Preventionette, Willard Chemical Co., Malden, Mass.
Pure Large Oval 3

Queen Complexion 3
Quick and Easy 56

Radiant Violet 3
Red Raven 346
Reve d'Amour 3
Rex Cremo 340
Rex Family 340
Rex Liqnid Soap 340
Rexolene 340
Rexolive 340
Rockford Scouring 2
Romola 3
Rose d'Or 3
Rose Glycerine 3
Rose Immortelle
Royal Lily 16
Rubbo, Lever Bros., Limited, England.

Safeguard Carbolc 53
Samson's Transparent Tar 3
Sandalwood 3
Sani-Tari Skin, Citizens Wholesale Supply Co., Columbus, O.
Santa Rex Castile 2
Sauer's Complexion 3
Savon White Rose 3
" Jockey club 3
" Violete de Parme 3
" Hyacinth 3
Savon Carnation 337
Savon Heliotrope 337
Savon Lilac 337
Savon Queen Regent 337
Savon Quo Vadis 337
Savon Rose Marechal Niel 337
Savoy Alpine Violet 337
Savoy Carnation 337
Savoy Jockey Club 337
Savoy Primrose 337
Sayf Syde, Sayf-Syde Soap Co., Cincinnati.
Sentinel 340
Sentry 340
Snow Violet 3
Solos Laundry, Nelsou Mfg. Co., Iowa City, Iowa.
Sorosis 340
Stainoff, D. M. Steward Chattanooga.
Stainilgo, Kendall-Davis Co. Boston, Mass.
Star Mottled 2
Star Tar 286
Success Scouring Sand Soap Tacony Soap Co., Phil'a
Superior Transparent Glycerine 3
Sweet Blossom 2

Tew-Fer 96
Tode 340
Toula Toula 334
Town Market 3
Trash Mover 286
Twin 2
Twin Rose 3
Two Jacks 340

Uncle Sam's Floating 120
U-Lika-Me 286

Vegetal Bouquet 3
Vestal Carnation 16
Vestal Lilac 16
Vestibule 3
Vineta 3
Vinola Cream 3
Violette Grandfleur 334
Violette Revee 3
Violet de Parme 337

Wego 96
Wendela 3
Whale 3
White Fairy 2
White Pine Castile 344
White Rose Glycerine 3
White Rose Honey 3
White Saxony 3
White Wonder 346
Windsor 2
Winner 29
Witch Hazel Bath 3
Witch Hazel Bouquet 3
Witch Hazel Shaving 3
World's Fair 2
World's Work 53

Yellow Dog 340
Yellow Palm 340
Yellow Rose 3

Zingarella 3
Zo-Zo White Tar 3
Zanette 3

THE MILWAUKEE BLANK BOOK MANUFACTURING COMPANY.



WE MAKE

BLANK BOOKS,
MEMORANDUM BOOKS,
STOCK SHIPPERS' RECORDS,
VEST POCKET DIARIES,
CARD CASES,
COIN PURSES,
MATCH CASES,
CURRENCY CASES,
AND
ENVELOPES.







218 and 220 THIRD STREET,

MILWAUKEE, WIS.

Say you saw the Ad. IN THIS PAPER

THE PREPARATION OF

Caustic Lye

from Soda Ash, by means of

STRUNZ PATENT LYE APPARATUS AND CONVERTING KETTLES

reduces the process to a very simple and profitable operation. The expense for labor, fuel, and lime being less than by any other process now available, for the following reasons:

The entire process is completed in a single operation.

No Driving Machinery. No Vacuum Pumps.

No Air Pumps to operate by my method.

F. B. STRUNZ,

708-716 BINGHAM ST., PITTSBURGH, PA.



Advertisements under this head will be inserted at the following rates, *strictly payable with the order in every case :*

SITUATION WANTED : $1.00 the first time, and 50 cents for each subsequent insertion.

HELP WANTED : $2.00 the first time, and $1.00 for each subsequent insertion.

FACTORIES AND MACHINERY FOR SALE OR WANTED: $2.00 the first time, and $1.00 for each subsequent insertion.

These rates are for advs. up to five lines in length; additional lines more in proportion.

In answering any of these advertisements never send original documents, testimonials, etc., especially when the advertisers' identity is not disclosed.

Don't waste time asking us for the names of parties advertising in this column without giving their address, as they will not be revealed.

POSITION WANTED.

Position Wanted: By an intelligent, practical soapmaker, with first-class references. Experienced in laundry, toilet and textile goods; also white, green and yellow soda and potash soaps, hard and soft, soap powder, scouring, floating, transparent, etc. All letters confidential and returned if desired. If you want a thoroughly reliable and satisfactory man, please address: REASONABLE TERMS, care of American Soap Journal, Milwaukee, Wis.

A chemist who for many years has been making all and every kind of soaps and perfumes, as well as refined, bleached and pressed all kinds of fats and oils, and has been doing all chemical work pertaining thereto, wishes to make a change. Address: C. X., care of American Soap Journal, Milwaukee, Wis..

A young man, thoroughly acquainted with the soap business, wishes employment with some Eastern concern. If necessary would invest money in the business. Address: A. Z. care of American Soap Journal, Milwaukee, Wis.

Position wanted by a first-class soapmaker in laundry and toilet; can take charge of factory. Best of references as to character and ability, including present employers. Address: B. Y., care of this paper.

Wanted: Position, as Soap Chemist or Soap Maker, with a firm that knows how to appreciate **Real Worth**. Can begin work in 30 days notice, and can take full charge of plant. Aa a 1, references. Address: "D. W." care of American Soap Journal, Milwaukee. Wis.

SOAP MAKING TAUGHT

in person or by mail, in all its branches. Address: TECHNICAL, care of American Soap Journal, Milwaukee, Wis.

HARD-WOOD BARRELS BOUGHT.

We buy empty hard-wood barrels of any description. KRELL BROTHERS, 1612 Cherry Street, Toledo, Ohio.

FOR SALE.

For Sale at a Bargain two high pressure copper digesters in good condition, 4 ft. in diameter and 18 ft. long. Apply to The Will & Baumer Co., Syracuse, N. Y.

PARTNER WANTED.

Partner Wanted: Practical Soap Man, Salesman or Superintendent, may secure interest in factory in fine location with good business. Investment required, $5,000 to $10,000. Full information given to parties meaning business. Address: General Finance Company, Davenport, Iowa.

WANTED TO BUY.

Wanted: Soap Kettle, about 12 feet diameter. Address, with description and price delivered in Philadelphia, SOAP KETTLE, care of American Soap Journal, Milwaukee, Wis.

SITUATION WANTED.

Situation wanted by thoroughly competent and reliable soapmaker. Address: Y. Z., care of American Soap Journal, Milwaukee, Wis.

By an expert, all-round American soapmaker, for years superintendent of factory. To show good faith, will begin on trial without pay 'till ability is proved. Can refer to everyone of past employers without exception. Address: Frank W. Hill, care of American Soap Journal, Milwaukee, Wis.

SOAPMAKER WANTED.

Wanted, a practical soapmaker, one competent to take charge of soap factory. Address: Caswell & O'Rourke, Derby Line, Vermont.

"Soap Maker wanted, must possess good experience of best quality Toilet, Shaving and Household Soaps, good position for suitable man. Box 30, care of American Soap Journal."

COPIES OF SOAP JOURNAL WANTED.

April and December 1903 copies of this JOURNAL wanted. Will pay 25 cents a copy. Address: American Soap Journal, Milwaukee, Wis.

The American Soap Journal & Manufacturing Chemist.

A MONTHLY JOURNAL OF THE MANUFACTURING CHEMICAL INDUSTRIES.

DR. HENRY GATHMANN, PUBLISHER.
2707 North Ave, Milwaukee.

MILWAUKEE, WIS., April 1, 1904.

VOL. XIV. No. 8.

APR 8 1904

THE

AMERICAN SOAP JOURNAL

AND

MANUFACTURING CHEMIST.

SUBSCRIPTION:

UNITED STATES, MEXICO, and CANADA, $2.00 a year
FOREIGN COUNTRIES in the Postal Union 2.50 "

PAYABLE IN ADVANCE.

ADVERTISING RATES IN REGULAR ISSUE:

	1 MONTH.	3 MONTHS.	6 MONTHS.	12 MONTHS.
ONE PAGE.....	$30 00	$75 00	$135 00	$250 00
HALF "	18 00	40 00	75 00	135 00
QUARTER "	10 00	24 00	40 00	75 00
EIGHTH "	6 00	15 00	24 00	40 00

SPACE ON COVER DOUBLE RATES.

For Rates and other Information concerning small advertisements of **WANTED** and **FOR SALE**, see Announcement at the head of that page.

OFFICE OF PUBLICATION:

2707 NORTH AVENUE, MILWAUKEE, WIS., U. S. A.

The AMERICAN SOAP JOURNAL AND MANUFACTURING CHEMIST is devoted to the interests of all manufacturing industries of a chemical character, and is an absolutely independent publication. It is the only newspaper of its kind in America and has also a large foreign circulation.

For Subscription and Advertising rates see above.

Communications on industrial subjects, news items, and any information suitable for printing in these columns, are solicited and will have due attention.

Readers in search of machinery, supplies etc., not advertised in these columns, are invited to write us and we shall endeavor to supply the information.

Address all communications to

DR. HENRY GATHMANN, Publisher,
2707 NORTH AVENUE,
MILWAUKEE, WIS., U. S. A.

In the March SOAP JOURNAL we called attention to the interest attaching to our "Wanted and For Sale" columns. With the early morning mail of March 10 alone we received at this office 17 letters, being replies to be forwarded to different advertisers in the columns mentioned. We keep no record whatever of this class of mail, but believe 17 letters in one single mail for 10 different advertisers to break the record. This, of course, is only a small part of all the replies received and forwarded during the month.

In order that there may be no suspicion of our having stretched the figures in the foregoing, we will specify below in such a manner that our advertisers, as well as their corespondents, can verify the number of letters as well as the date. We forwarded on March 10 letters received on the same morning as follows:

To A. Z., letters from four correspondents.
To Box 30, letters from one correspondent.
To Y. Z., letters from one correspondent.
To Soap Kettle, letters from one correspondent.
To Reasonable Terms, two letters.
To F. W. Hill, letters from one correspondent.
To C. X., letters from two correspondents.
To B. Y., letters from two correspondents
To D. W., letters from one correspondent.
To Technical, letters from two correspondents.

In addition the same mail brought two replies to our own advertisement for back numbers of this paper, which really ought to be added also, and which would bring the total up to 19 letters for 11 advertisers in one mail.

We have already admitted that this is probably the best we ever did in one mail, but in our opinion—just as certainly as a thermometer will indicate the surrounding temperature—so the effectiveness of these small advertisements is the one proof of *effective* and extensive circulation of a trade paper. And that is the point all the foregoing is aimed at.

Having made one point, permit us now to gently drive it home and rub it in: Two soap makers, who recently advertised in the SOAP JOURNAL for positions, have since, of their own accord entirely, written us *substantially* as follows (we change the *wording* advisedly, as

the letters were strictly confidential, but the *sense* of both was the same): "I advertised in your paper, and also in —— —— for a position as soap maker. I received the greatest number of answers through my ad. in the SOAP JOURNAL, and besides what answers I got through my ad. in the —— —— were only duplicates of some which the AMERICAN SOAP JOURNAL had *also bought*. Hereafter, when I want anything, I shall advertise in your paper alone."

Both letters are on file in this office and we presume that, although they were not for publication, in case of need we could get the permission of their writers to show them to a select committee!

The point of this, again, is that practically all soap *manufacturers* read the SOAP JOURNAL, and answer advertisements in the same to a greater extent than they do in case of advertisements appearing elsewhere.

A correspondent, rightly or wrongly, recently wrote us: "The Soap Manufacturers could do as well as the Perfumers' Association in united effort to benefit themselves and each other; but they are Christians and also scientists, and for short they have become 'Christian Scientists' so far as their ills are concerned. They believe in 'absent treatment,' allowing each of them to stay home and let an association work out their salvation at the cost of an annual fee (dues)."

For other evidences of being alive, our subscription list tells us that among our latest additions of new readers there are soap makers in New Foundland, Alberta, Japan, Natal, and even Central Asia (Siberia) where the manager of the Works of the Imperial Domain has just become a subscriber for this paper. To say nothing of other countries and the United States.

We have often watched with pleasure the handsome team of heavy Percheron grays of the B. J. Johnson Soap Co. of this city, and well remember the late senior of that firm, driving down the street behind his fine roadster at a merry clip, even after he had well turned the "three-score years and ten" which is generally supposed to mark the period in life when man is no longer interested in fast horses. We also remember the magnificent teams and trucks of Mr. B. T. Babbitt; particularly that team of four dappled gray Normandy stallions, imported at a cost of $12,000. And many of our readers will recall to memory the fine 6-horse team of blacks employed by J. S. Kirk & Co. during the Chicago World's Fair, and after.

We select only these few examples; as a rule, all soap makers' horses are fine animals.

But our love for fine animals is not confined to horses alone; it extends to the noble and good of every species of animals, and we can hardly wonder at that when we consider that he, who devotes his life to the manufacture of that article, the use of which uplifts man to a condition "next to Godliness," cannot consistently disregard the betterment of the condition of the less favored members of the animal creation.

The truth of these observations is again proven by an item which we find in the Evansville Courier of March 18, as follows:

A BONNIE WEE SCOTTIE.

He arrived on the morning of St. Patrick's day by the Adams lightning express train, coming from Mr. Charles Melzer in Colorado and going direct to the residence of A. Melzer, where he will make his home hereafter. His full name is Bobbie Roger Macduff, but he dislikes titles and long names, preferring to be addressed just plain Mac. He is descended from one of the noblest Scotch families, celebrated for their war-like spirit, and even now at his tender age Mac displays wonderful self-reliance and a total disregard of every day conventionalities.

An incident illustrating his independence and readiness to defend his views and principles at any cost, occurred directly after his arrival, when his host conducted him to the bath room, suggesting that he refresh himself by a nice warm bath after his long journey; this well-meant invitation he flatly declined, saying he does not believe in soap and water and citing the anti-soap doctrine of a Chicago professor in support of his position. Every argument failed to convince him of his error, and almost without warning he flew into a terrible rage, creating such a rumpus that a passerby turned in a hurry call for the hobo chariot. With considerable difficulty he was finally quieted.

When dinner was ready, Mac was served with a lovely dish of mush and milk, which had been expressly prepared for him, and it was believed would be duly relished by the youngster, but he only took one sniff at it, turned up his puggy nose and indicated that a steak, done very rare, would be acceptable. When this was brought he bolted it down like a cannibal, and immediately after sauntered into the parlor, and, with great nonchalance, flung himself upon the floor and went to sleep.

Mr. Melzer is much worried over Mac's peculiar manners, or rather, lack of manners, quite incompatible with his alleged nobility, and fears that Mac may not be Mac at all. Maybe he is a son of Stereguschtchi Besposhtchadni or of Vnushitelni Damdijapovitch. His fierce black eyes, face all overgrown with bristly whiskers, wabbling gait and general ugliness strikingly resemble the picture of a Manchurian bandit or Cossack chief. However that may be, by gentle and patient training it is hoped that Mac will in time adopt the ways of civilized folk and become a respected member of this peaceable community.

Oh, but Mac'e is a chappie, 'e's a laddie,
'E's a Tartar, 'e's a terror, 'e's a brick.

We are informed that Mr. Melzer's fears regarding the noble birth of "Mac" were groundless; it turns out that he came from the celebrated kennels of Dr. Fayette C. Ewing, at Kirkwood, Mo. Dr. Ewing is the foremost authority on Scottish terriers and owns the finest speci-

mens in America. "Mac" is a son of "The Laird," dam "Forget-me-not," and both these are acknowledged to be the finest Scotties in the land. He is one of a septet born last January, and visitors to the World's Fair at St. Louis next summer will have an opportunity to see Mrs. Forget-me-not and two of Mac's brothers on exhibition there.

Even at the risk of unduly prolonging our remarks on animals, we cannot resist the temptation here of reverting once more to horses and recalling the memory of two of these animals, which we hope to remember to the last.

The first of these was a horse that had just passed through the Franco-Prussian War of 1870-71; it had returned with the tips of both ears cut off by a saber-cut, aimed at its rider, and found its way to a farm where the writer passed his vacations of boyhood days. A riding instructor of the German dragoons was mounted on the horse, took the writer up in the saddle, and together we crossed a wide river where the horse first waded, then swam for a stretch, and finally safely waded with its burden up the opposite bank. A year or so later this noble animal drowned in some unaccountable way, while left alone on a pasture adjoining the river. That was thirty years ago.

The other horse which the writer remembers especially, was one which he saw in—Evansville, Ind. It was one which had been used by Mr. Melzer, Sr., as a buggy-horse, and which since his death was simply being petted and taken care of by his sons, without ever being made to do anything. It was just taking a walk around the house. That was nearly fifteen years ago, but we have not forgotten the visit, nor the circumstances connected with this horse.

And this brings to mind when, also nearly fifteen years ago, an advertisement appeared in the SOAP JOURNAL, offering three puppies born and raised in the Evansville soap factory, to as many soap manufacturers who would promise to be good to them. But, dear me, talking of things thirty and fifteen years ago, and finding ourselves so talkative, makes us suspect that we are getting old. Perhaps we better change the subject.

Among the letters published in our last month's JOURNAL, there was one to which was appended a clipping referring to a natural soap to be made from a tree known as "*Sapindus utilis.*" The clipping seems destined to have a variegated course of travel before it.

Among other places, it made its appearance in Harper's Weekly not long ago, and in consequence that paper recently received the following letter from St. Louis:

"*To the Editor of Harper's Weekly:*

SIR.—Of course you can say, with Byron,

'What is writ, is writ,
Wish it would be worthier.'

Or. . . . To the contrary, you might be willing to listen to reason and to repair the wrong you did. I refer to the item in yours of February 6 on *Soap.*

"It is bad enough when one hears the argument, 'I read it in the papers.' Your paper, taking a somewhat exalted position [mind your coat of arms], gives a peculiar stamp of reliability and veracity to the contents of your columns. That is why most of us like Harper's Weekly.

"Truth and fiction, and most of the last-named variety, is mixed in your 'Soap' information. *Sapindus* is not at all noteworthy. Neither are the plants new to science, as the average reader might feel inclined to think. There are about 600 species of the family where the plant quoted belong to, and all of them contain more or less of this substance what you erroneously call soap.

"You bring about further delusions when you state, A natural soap can be obtained from the fruit.

"And to impress your readers that you know what soap is, you continue—alkali is absent.

"Allow me to call your attention to the fact that good soap—and you advocated: the soap from *Sapindus utilis* is in many respects superior to the 'ordinary' commercial product—always contains free alkali.

"It would not wash the greasy spots out of your clothing, neither would it give you that agreeable sensation of being clean, after using it, if it did not. A natural soap does not exist. Soap is an artificial product, does not grow on trees. The consummation of soap is a guide for civilization. As Liebig and the German Emperor after him once said, 'Seife ist die Hauptsache.' Romans nor Greeks did know soap. Neither do savages use it at the present day. You are making soap when you shake linseed oil with lime-water (an excellent remedy, by the way, for burns and scalds), or when you boil the drippings, the leakings, the washings, of wood-ashes with fat. It is better to leave the making of hard soap to a soap manufacturer.

"The Sapindus plants do not contain 'soap,' but saponin, an active principle appearing in white crystalline needles, when isolated, known to chemists under the collective name of 'a glucoside.'

"It is found in the soapwort (*Saponaria officinalis*); in the soap-wood (*Quillaia Saponaria*); is not as harmless a substance as one might think from its soapy name; does not clean clothes any more than water will do; *foams when shaken with water;* das ist des Pudels Kern.

Beer, soda water, and other beverages, to which the appearance of 'body,' of 'richness,' is given, which are wanted with foam, owe this sometimes to saponin.

"So you see, Mr. Editor, 'Sapindus' contains quite a different thing from 'Soap.'

"I am, sir,

J. B. NAGELVOORT."

But what strikes us as most remarkable about that clipping is, that it actually came to America, last January, in the form of an official report of our Consul-General in Frankfort, Germany! And now Harper's Weekly has to bear the blame!

And then the gentleman from Missouri, who actually has a better understanding of the true facts than had our Consul-General and his German advisers, and than Harper's Weekly, spoils his really interesting communication by another equally large blunder of his own. He says that good soap always contains free alkali and that it would not give us "that agreeable sensation" after using it, if it did not.

If there is anything we would willingly sacrifice, it certainly is "that agreeable sensation" experienced after using a soap containing free alkali.

Burglars who cracked a safe at the Reading Railway Station at Frackville, Pa., used a perfumed soap to retain the nitroglycerine in the safe. A quantity of soap of the same odor was found on the persons of several suspects, and the rest was simple.

It does not pay to be too fastidious.

In our columns entitled "Around the Soap Factories," we are necessarily compelled to condense a great deal of information reaching us, into as few words as possible. Thus we have one item on another page of this paper which reads: "L. B. Darling & Co., of New Haven, Conn., have applied to the board of aldermen for a license for making soap." The brief item is the condensed milk of the cocoanut of three separate reports that came to hand.

One of these reports came in the shape of a clipping from a New Haven newspaper, and by way of diversion we give it in full herewith:

"The committee on licenses held a meeting last night in the city hall, and the most important matter to come up was the petition for a license from L. B. Darling & Co. to make soft soap at 24½ Fair street. There were present several interested parties awaiting for the reading of the petition in anticipation of giving their views in the case. It is understood that this petition has been in the hands of the city officials for some time and has been the cause of much interest. The question as to whether the city ordinance relating to the trying out of soap grease, lard and tallow within the city limits was being violated furnished a subject for investigation and inquiry on the part of the committee on licenses at the meeting last night.

"After the reading of the petition, a chance was given for those interested to speak on the request. Dr. F. W. Wright, health officer, stated that the company was doing business in Fair street, and has been doing business there for some time. He said that he had received no complaint from this source within the past two years.

"L. R. Hemmingway, president and manager of the company, who petitioned for a license for manufacturing soft soap, stated that the company has a receiving station in Fair street, and that the place is kept clean and connected with the sewer. He stated that the stuff brought there is never kept over night, but is always carted away as soon as it arrives. He said he could see no reason why the committee should question any such license, as he considered it was a benefit, as the poor people in the locality of the station bring in bones and such things, in return for which they received soft soap, and that many of them have no other means of getting soap.

"Mr. Hamilton, who lives in Warren street, stated that he objected to the soap factory doing business in its present location and opposed greatly the granting of a license to the company. He said the odor from the place was unpleasant, and that many times he was obliged to close the doors and windows in his house to keep out the bad smell. He said in time of a west wind the odor was unbearable. Mr. Hamilton also stated that the vicinity was thickly populated and it was no place to make soap. He was asked by Mr. Hemmingway if he was sure the smell came from the soap station or the harbor. To this he replied that he received the odor from both places and that he was supplied all the time with plenty of flavors.

"Mr. Bone of Warren street also raised an objection to the granting of the license on the same grounds as Mr. Hamilton.

"C. E. White, who is interested in the soap company, stated that the soft soap is made from pure grease and potash and the smell could not injure or displease anyone. He stated that a boiled dinner on the kitchen stove is more unpleasant to the average person than the manufacturing of soap. He described the odor from the soap boiling like the odor from boiling clothes on a wash day. He spoke of the poor families who get soap at this station for their use for practically nothing. He stated there is no rendering done at this place, as all the garbage is sent to the North Haven factory.

"Alderman Spreyer stated to the committee that, while he was not interested in the matter from any

standpoint, he would suggest that the committee postpone the granting of any license until the revision of the city ordinances is completed. As long as the company has waited since September a year ago for a license, he would suggest a delay of two weeks, and by that time he thought the new ordinances would be in shape and might have some clause pertaining to this matter. He stated that there might be in the revised ordinances a clause taking away the right of granting licenses from the aldermen and giving this duty to the board of health. These remarks impressed the committee favorably, and probably no licenses will be granted until after the revision of the ordinances.

"Mr. Hemmingway, manager of the company, was seen by a Palladium reporter after the meeting, and stated that the company is at the present time doing business under the name of the New Haven Rendering company. It was originally the L. R. Hemmingway company, and later sold out to the American Agricultural Chemical company, who in turn sold to the L. B. Darling company, which absorbed into the New Haven Rendering company. He applied to the board of aldermen two years ago for a license, the old license having expired. Nothing was ever heard from the aldermen in relation to the license, and the company still continued to do business. He stated that soap business has been done in this location for eight years and he never before heard of any complaint. The company receives the bones and necessary stuff for making soap at this station and every day it is loaded in large teams and driven to the factory in North Haven, to be made into soap. At the receiving station, in Fair street, soap is made once a week in a kettle holding 700 gallons, and the people come there and get it.

"Mr. Hemmingway advanced the point of soap manufacturing in Bridgeport and some of the large cities, where the factories are located in the center of the cities."

History repeats itself, to be sure. A year or so ago, palm oil suddenly sprang into the breach when other soap stocks had become uncomfortably expensive; and now it seems that peanut oil has come to perform a similar mission. Not that American peanut oil had suddenly become plentiful, for it is the Indian (and African) peanut which has been so plentifully supplied to European oil mills, that the latter can offer us oil at an unusually low price. It is claimed that something like ten thousand barrels of peanut oil have lately been purchased by American soap manufacturers.

Some years ago an oil and soap factory was started in Richmond, Va., with the object of using the peanut as a raw material; but it seems that our own peanuts are too expensive to be so utilized—bringing a better price as an edible commodity—and so the factory has not been heard of any more of late.

Peanut oil is probably preferable (for soap making purposes) to cotton oil, and, if its price is as low or lower than the latter, will be used freely. India and Africa raise immense quantities of peanuts for oil making purposes, and ship them regularly to Europe—especially Marseilles—where this soap stock is fairly well introduced by this time. But until now no such large use has been made of peanut oil in this country. Whether the present position of this raw material will remain unchanged for any length of time, is a question.

From Our Correspondents.

NEWS FROM MEXICO.

MEXICO, March 16, 1904.

Dr. Henry Gathman:

DEAR SIR—Herewith we send you $2.00 for subscription to AMERICAN SOAP JOURNAL.

Last year times were not favorable; raw materials cost on an average 37c. per Kilo, the cost of manufacture being 5c. for the same weight; and with soap selling at 29c. there was very little margin.

We had a great deal of trouble with our filler for a time, as the soap would not take it for anything in the world after we had put in some new machines, though before, on the old system, we had no trouble. But an item in the AMERICAN SOAP JOURNAL gave us a hint and after considerable time and experience we devised a filler which the soap takes very well although it may not be quite neutral.

Your book, "American Soaps," was of great aid to us, and we would not give it for any money.

This year seemed to be somewhat better, as we began with oil at 29c. and 30c. per Kilo, but factories, such as La Esperanza, La Alianza, and others of the same firm, viz., Compania Industrial Jabonera, became aggressive and rebate the price. They sell soap at 23c. per Kilo, but the soap is over-filled and when fresh it seems like cheese, and dry, becomes as hard as stone. The people buy it on account of the size.

Thanking you for past favors, we remain

Yours truly,

.....

NOT GUILTY!

CHICAGO, March 7, 1904.

Editor American Soap Journal:

DEAR SIR—In the Seifensieder Zeitung of Augsburg, Germany, I recently read a reference to an (un-named) American trade paper, in whose pages a correspondent is said to have made the statement that "in Germany

they have a Soap Manufacturers' Association and a Soap Makers' and Perfumers' Association, and at their meetings the soap manufacturers talk mostly prices of soap, and the soap makers all sorts of nonsense, elect new officers, decide upon the next meeting place, drink lots of beer and go home with a big head."

Being myself a member of the Soap Makers' and Perfumers' Association (headquarters at Munich), and having occasionally attended the meetings, I should be in a position to correct this erroneous statement, but do not know whether it was the AMERICAN SOAP JOURNAL or some other paper which originally published the above; I should hardly think it was your paper, though. [Neither it was; in fact we have not seen the remark at all.—EDITOR A. S. J.]

While it is true that there is some beer consumed by the soap makers assembling in Munich—a matter of course *in Munich*, one might say—this is by no means a prominent feature. As often as I attended the meetings, they were largely occupied with lectures on subjects of practical interest to the trade, followed mostly by lively discussions of the subject. In addition all technical problems brought up are answered as thoroughly as possible. The association affords aid to sick members, acts as employment agency without charge, and was responsible for the establishment of a technical school for the soap industry. Lastly, it has a fine library at the disposal of its members.

I understand that Mr. Geo. A. Schmidt of Chicago, whom I respect highly as an able soap maker, is one of your friends, and feel therefore that I should like to be accounted as one of your friends also. As an enthusiastic member of the before-mentioned association, I would request you to join us, in the interest of the association as well as of your own. Our membership extends even to China and Japan, and I should be greatly pleased to secure your membership.

I enclose $2.00 for a year's subscription for your Journal and, awaiting your reply, remain,

Yours respectfully,

KARL HEILBRONNER,
2802 Michigan Ave.

SOAP FROM CASTOR OIL.

DURANGO, Mexico, February 15, 1904.

Parties in the State of Durango are interested in processes or machinery for the making of soap from the castor bean. The plant (*Ricinus communis*, also known in Spanish countries as *Palma cristi*) grows extremely well here, very speedily coming in places to be as high as a small tree, and produces in abundance. A great deal of common soap is made in the "Laguna district" of this State and Coahuila, the great cotton district of Mexico, especially by one large factory. The seed of the cotton plant is used for this purpose, but the soap produced for most common use herabouts, not being perfumed, has a very bad odor. Some time since an owner of a large estate in Durango spent a large sum of money in equipping his plantation with machinery for extracting the oil of the castor bean, and also for making soap from it if possible. His experiment was a failure, and the plant has lain idle for several years. Parties who propose to operate it, if they could find a successful process, or who would undertake to make large shipments of the castor bean to the United States, are interested in hearing from any person or persons who can communicate to them information on the subject and perhaps open business relations with them.

JAMES A. LE ROY, Consul.

[The owner of the estate in Durango might have saved his "large sum of money"; and the parties now interested may save quite a little of theirs, if they will take the following information, free of charge: Castor oil, *by its very nature*, does not make a desirable soap; a small proportion of it added to other oils or fats has its uses, but the problem of making a good soap from castor oil alone is like trying to make butter from oleo oil and stearine.]

SOAP IN CUBA.

HAVANA, March 8, 1904.

Editor American Soap Journal:

DEAR SIR—Well, the treaty of reciprocity between the United States and Cuba is an accomplished fact and it favors importations from the U. S. at from 20 to 30 per cent. less duty than other productions.

On soaps the duty has been increased by 30 per cent., on all except those from the U. S., which pay the same as formerly, so that soap from the U. S. pays about 1½ cents per pound duty, and soap from other countries about 2 cents. This is only a temporary regulation, in force by decree of the President of the Republic, duly authorized by Congress, as on account of its being election time there is not time to pass the necessary measures and revise the customs tariff just now.

Quotations for soaps are as follows (in Spanish gold): *"Rocamora,"* $6.30 for imported; local manufactures: *The Key*, $4.75; *The Padlock*, $4.50; *Matanzas*, $4.00. *American* (for 100 lbs.) $4.50; *French*, $7.50 to $7.65.

The duty being $1.50 A n gold on American soaps, besides shipping and landing expenses, I do not very well see how they can sell at $4.50 (which is really $4.05 in American coin). Figuring duty and other charges, the expenses must be fully $1.75, leaving barely $2.30 for 100 lbs. of soap, out of which must come all working and general expenses.

By all appearances, American manufacturers are not making fortunes by shipping soap to Cuba.

Yours, etc.,

A. D'ESTAMPES.

ON NAVAL STORES.

JACKSONVILLE, Fla., March 26, 1904.

Editor American Soap Journal:

I send you enclosed, clipped from the "Weekly Industrial Record" of Feb. 19, last, an article of great interest to the consumers of naval stores. Your readers will draw their own conclusions. The movement has succeeded and is an established fact. This being my busiest time of the year, I cannot reply to Mr. Herty's letter; but that will keep.

Yours truly,

E. MOULIE.

[ENCLOSURE.]

A MINIMUM PRICE FOR NAVAL STORES WITH A STANDING BID TO PROTECT IT.

A meeting of the executive committee of the Turpentine Operators' Association was held at Jacksonville Monday, February 15. A movement for the protection of operators against the manipulations of any persons who may desire to participate at any time in a decline in the prices of naval stores was inaugurated. This movement was nothing less than the naming of a minimum price for turpentine and rosin, and a request upon factors not to sell at a less price. In thorough sympathy with the movement the Operators' Tank and Warehouse Company, which is wholly an operators' protective organization, agreed to take all receipts at Savannah at the minimum price named, thereby assuring sales at all times at and above the figures named in the minimum.

The Turpentine Operators' Association therefore addressed the following letter to all operators:

JACKSONVILLE, Fla., Feb. 17, 1904.

DEAR SIRS—We enclose a letter for you to sign and return at once. This is an order to your factor to not sell any of your stuff during this year for less than the prices named. The Operators' Tank and Warehouse Co. has arranged to buy at these prices all the stuff that the factors can't sell at or above the minimum prices named. This plan contemplates that prices cannot go below, but may go much higher than these minimum prices, and whatever higher they go, the operator gets the benefit. Please sign at once and return to this office. We will take account of all the letters and forward them to the factors that may be named. This is a great and important move, and the quicker these letters are signed and returned the better. The factors are ready to stand by the operators in this undertaking, but want your signature and backing. Write in the blank at the beginning of letter the name of your factors before signing. Please give this immediate attention and oblige.

By order of the Executive Committee,

TURPENTINE OPERATORS' ASSOCIATION.

A. D. COVINGTON, President,

P. A. HOLLOMON, Secretary.

The following letter which is to be written by the operators to the factors, shows the minimum prices below which no sales must be made:

DEAR SIR—During 1904 you will please not sell any of our product at less than the following prices:

Spirits turpentine, 50 cents per gallon.

Rosins, A, B, C, D, $2.00; E, $2.10; F, $2.20; G, $2.25; H, $2.35; I, $2.50; K, $2.75; M, $3.00; WG, $3.35; WW, $3.50.

In consideration of your standing by us and securing these prices for us we agree not to sell any stuff except through our factors.

Yours very truly,

(Signature)

The following letter has been addressed to all factors doing business in Savannah:

GENTLEMEN—It is the purpose of the producers of naval stores, who are members of the Turpentine Operators' Association, not to sell any of their product during the season of 1904 at less than the following prices, and it is our purpose to have all such producers notify their factors not to sell their products below the minimum prices named:

Spirits turpentine, 50 cents per gallon.

Rosins, A, B, C, D, $2.00; E, $2.10; F, $2.20; G, $2.25; H, $2.35; I. $2.50; K, $2.75; M, $3.00; N, $3.20; WG, $3.35; WW, $3.50.

In order to insure these prices for our members, we have arranged with the Operators' Tank and Warehouse Co., and through that company with the National Tank and Export Co., whereby all receipts on the Savannah market that are not taken promptly at or above the prices named, are to be purchased from the factors by the Operators' Tank and Warehouse Co., at the minimum prices named.

We believe that you are friendly to the operator and his interests, as represented by this association, and we therefore request that you write us, as per form enclosed, assuring us that you will not make any sales during the season below the prices named and will not make any sales on private terms, or otherwise, that will defeat our object in securing the best possible prices throughout the season and that we may expect your hearty co-operation in all matters looking to the general welfare of the industry.

Soliciting an early reply, we are,

Yours very truly,

TURPENTINE OPERATORS' ASSOCIATION.

By means of recapitulation, the Record will emphasize just what this movement means. In the first place, it means prices for spirits and rosin can and will go

just as high as the conditions may warrant; they cannot go below a stated price.

The scheme of the manipulator is to precipitate a market decline and then run it up to unload what he has bought at a profit. It is simply a matter of trading for gain without any regard at any time to the interest of the producer. By naming a minimum price of 50 cents for spirits all trading must be done above this figure and the exporter must run the prices up above this figure to get his profits. The minimum is a deadline, so to speak, below which no trading can be done, as the Operators' Tank and Warehouse Company stands ready to protect the operators by taking in all receipts at the low water mark.

Any operator can always feel protected by this means and it matters not how remote he may be from the scene of trading and from the manipulations of those interests inimical to his own, he can realize that whether his spirits is selling for sixty and above, it cannot and will not sell below fifty.

In the second place, it is not a radical movement. There is no disposition on the part of the operators to do anything radical. Fifty cents as a minimum for spirits is extremely conservative. May-August is today selling at 52 cents. Why is it selling at that figure? Because the Turpentine Operators' Association and the Operators' Tank and Warehouse Company are watching the interests of the operators, and as protective agencies their power and influence are felt upon the market.

The Record urges, in justice to the operators and in fairness to every interest in the great naval stores industry, the factors to agree not to sell the product of their customers for less than the minimum agreed upon and upon all the operators to see that their factors are immediately placed in receipt of letters from them asking that they stand by them in this undertaking, and whatever conditions may arise not to sell their product at less than 50 cents for spirits and the low water mark agreed upon for the several grades of rosins.

Knowing the factors as we do, we believe they will agree to help aid in a movement of this kind.

Perfumery.

(An Illustrated Lecture before the Society of Chemical Industry, March 25th, 1904.)

Mr. Chairman, and Gentlemen:

The subject of "Perfumery" is so very extensive, that in order to include as much information as possible, I have had to abbreviate my remarks. Parts of plants, as well as natural plant products, which have been used since antiquity on account of their agreeable odor, their pleasant taste, or their medicinal virtue, enter the world's commerce up to the present time in their original form, being either previously dried or prepared in some expedient manner. With the improvements in technology these aromatic volatile oils, gums, resins, barks and roots, have gradually been prepared in a purer and better condition. After several thousand years of knowledge and actual use of the aromatics in their original form, their essential constituents, the volatile oils, have since the middle ages and more particularly in modern times been successfully isolated in their natural freshness and entire efficiency. The ancient Egyptians prepared perfumes for different purposes, for embalming the dead, as offerings to the gods, and for domestic uses. Other nations of antiquity, as the Phoenicians, Assyrians, and Persians are known to have made great use of perfumes. The Greeks and Romans made offerings of perfumes to their gods. Perfumes were made and used in great profusion. The Arabs introduced their use into Spain with many curious receipts. In the middle ages, France and Italy were most conspicuous for their manufacture and use. Alcoholic perfumes are supposed to have been first made in the fourteenth century. In England in Shakespeare's time, perfumes were used freely. The world centres for the manufacturing of perfumes to-day are London and Paris chiefly.

Synthetic Products, highly odoriferous, are manufactured by a dozen or more large firms throughout the world. These chemicals are crystalline and liquid and many of them, when diluted, so closely resemble the fragrant flowers that they are extensively used in manufacturing all kinds of perfumery. The active principle is in some cases identical. Chemists have achieved great fame in exactly imitating the delicate flower odors to perfection. The synthetics most largely used in perfumery to-day are perhaps:

Ionone, a liquid violet odor sold under many names, discovered by Prof. Tichmann.

Cumarine, the active principle of the Tonka bean.

Heliotropine, distilled from white pepper.

Terpineol, the odor of Lilac Blossoms from Turpentine.

Cassia Oil, three times stronger than the natural oil.

Citral, Geraniol, Artificial Musk, Hyacinthe, Jasmin, Neroli, etc. The list of these products is being added to continually. Many of these synthetics are the active principle in several natural products, *e.g.,* Geraniol is active in Lavender, Lemongrass, Linaloe and the Rose Oils. The synthetics are a triumph to the research chemist; they are indispensible to the manufacturing perfumer and confectioner, and owing to extreme competition the prices are very low. Samples for examination are on the table.

The Animal Odors of interest and value to the perfumer are but four in number:

Musk.—From the musk deer hunted in the snowy mountainous region of northern India and China. Not above 2 feet tall and of great agility, this small animal is shot or snared by the natives for the little sack or pod between the flesh and the skin under the belly, containing at its best in adults a reddish brown granular moist musk, about 1 oz., which turns black on exposure. The odor is said to be due to the food eaten, and owing to the limited supply and consequent high price (about $14.00 per oz. here), scientific adulteration takes place. Shot, red earth, dried blood, etc., are squeezed into the pods by the cute Chinaman, to weigh heavy. Musk, sometimes called the "Vulgar Odor," is pungent, penetrating, and lasting; it is chiefly used as a fixing agent in handkerchief perfumes making the bouquet more lasting. A scent that lingers is most desirable.

Civet.—Derived from the Civet Cat, a slender, carnivorous animal about 2½ feet long, native to northern Africa. The civet is secreted in a small double sack lined with glands, wherein is secreted this unctuous odor which is a semi-liquid of yellowish color, becoming brown and harder on exposure to air. Insoluble in water, entirely so in hot alcohol. Contains a volatile oil and free ammonia. Like many other substances of oriental origin, it was first brought to Europe by the Dutch, who used to keep numbers of civets alive at Amsterdam, for the purpose of collecting the perfume when secreted, amounting to about ½ oz. per week. It is usually sold in a horn at about $4.00 an oz. The odor of Civet is very repulsive, but when properly diluted and combined with sweet-smelling odors, it produces a very pleasing effect, possessing a much more floral fragrance than Musk. It would be impossible to reproduce the perfume of some flowers without it. It is difficult to ascertain the reason why the same substance modified only by the quantity of matter presented to the nose should produce such an opposite effect on the olfactory nerve, but such is the case with nearly all odorous bodies, especially essential oils, which if smelled in bulk are far from nice and in some cases nauseous, such as Thyme, Patchouly and Vetivert Oils, but if diluted with 1,000 times their volume of spirit, then their fragrance is delightful. Quantity is equivalent to an allotropic condition of matter: quantity produces opposite physical effects upon the faculties.

Castor.—A substance somewhat resembling Musk, secreted by the beaver, of the consistency of honey, of a strong, penetrating, fetid odor. Best obtained from the Russian beaver. Benzoic Acid is recognized among the numerous organic compounds forming Castor. Its use in perfumery is very limited.

Ambergris—or, the diseased liver of the Sperm whale, is of a greyish-black color and worth to-day $26.00 an oz.—dearer than gold. It is probably the cause and not the effect of the disease. It is found on the shores of Southern islands and is used in tincture form in the finest perfumes as a fixing agent.

The Gums and Balsams are too numerous to enumerate here. Myrrh, Opoponax, Benzoin, Balsam Peru and Tolu and Styrax and many others are used largely in tincture form to make up the bouquet of certain perfumes, also to give the odor permanence.

Certain Mosses and many roots, barks and woods are used in ground form in Sachets, or distilled to obtain the odoriferous body more concentrated. Some samples are:

Mousse de Chene.
Orris Root.
Vetivert Root.
Cinnamon Bark.
Sandal Wood, etc., etc.

The Spices—cloves, nutmeg, mace, etc.—are of great importance in forming certain perfumes. All the above, and many more, are distilled very extensively by Schimmel & Co. of Leipsig, Germany, perhaps the largest essential oil distillery in the world. Each substance is distilled under the most suitable conditions, which vary with each product. The % yield of oil varies markedly, also the quality of different parcels of goods received, according to the climate conditions when grown. What magic valves nature must use in the case of the nutmeg, with its outer coating of mace! Two odors grown side by side but totally different. The spices are indigenous to India and Ceylon and the hot Southern climates, and exported to Europe for distillation.

Speaking of Ceylon, the well-known Citronella oil is distilled here as a leading industry. It grows in the form of a tall grass, very rank and easily cultivated; the oil is sold in ½-ton drums over the world, worth to-day 25 cents per pound. There is a quality grown and distilled in Java three times more aromatic, which is now in great demand. There is merely time to refer to the Peppermint farms of Michigan, and, in a small way, Park Hill, Ont.; the Sassafras bark which is grown and distilled in Virginia; the Lavender fields of Mitcham, England; the extensive cultivation and distillation of the Citrus family, Lime, Lemon, Orange and Bergamot in southern Italy and northern Africa.

Analyses.—Adulteration is largely resorted to by unscrupulous dealers. Standard chemical tests and the polariscope are used to detect them.

The chemistry of the essential oils is intensely interesting. They are entirely volatile and their name is legion. They are liquid at ordinary temperature, with few exceptions; in color, they range from white straw color to brown; specific gravity ranging from in Oil of Coriander 0.87 to Oil of Cloves 1.07; composed of

hydrogen, oxygen and so rich in carbon that they burn with a smoky flame. They are valued commercially by estimating the percentage of the active principle which varies widely with the different latitudes and altitudes where the products were grown. Time won't permit to detail further.

Reference Works.—"The Volatile Oils," Gildermeister & Hoffmann; Fritzsche Bros., "Descriptive Catalogue"; Piesse's Perfumery"; "Romance of Perfume Lands," F. S. Clifford; "Odorographia," J. C. Sawer, F. L. S., Edinburgh.

The Sense of Smell is very much neglected and seldom developed. The possibility of development is indicated by the wonderful sense of smell which is found in deers, foxes, dogs, etc., also in Indians. There is a case on good authority of a woman living in Guelph, who can sort the clothing of a number of persons after washing and ironing, by her sense of smell alone. There is no question that plants use odors for purposes beneficial to themselves, and that the production of principles of characteristic taste and smell by plants is only because they serve its necessities.

The subject of cross fertilization is interesting. It is very desirable, probably necessary, that for the successful production of seeds, there should be a carrying of pollen, from one flower to another. The wind to an extent does this, but the chief agency is insect visitation. Flowers bribe butterflies mostly by bright colors, as they are day-flying insects and color appeals to them. Moths being night-flyers and far outnumbering the butterflies, have their visits bid for by the flower on other lines. The flower needing their good offices, makes its petals as conspicuous as possible, sometimes by opening more fully at night, but more particularly by being of a light or white color. Vying with each other for insect visitation, they compete in the production of odors, which become stronger as evening approaches. Night-feeding moths are all provided with long sucking-tubes, which when not in use are neatly folded up. The odor of the flower serves as a guide to the moth in its search for the nectar which the flower has provided. There being a close relationship between taste and smell, it is not unlikely that the moth judges of the quality of the nectar by the perfume of the flower. Few plants would be discovered by moths at night, had they only the color of the flower to guide them.

Etomologists recently captured night-flying moths by "sugaring," which means spreading syrupy sweet liquids to attract them. It has been found that the efficieney of this method has been very much increased by adding some odorous principle approved of by moths. White, sweet-scented flowers always remain open at night, many of them do not open till darkness approaches. Examples: Stephanotis, Jasmine, Tuberose, Nicotiana, Light-colored Petuneas, etc.

Aromatic principles, such as the spices, serve as a protection to the plant from insect depredations, and are produced by it primarily for that purpose. These are all volatile. The plant producing them grows in hot, dry climates and would suffer from excessive temperature, were it not for the cooling effects of the evaporating volatile principles of the spices. Flowers of the Orange, Lemon, etc., are attractive to insects and their visits are needed. The *fruits* of these have no need of insects and find them a nuisance, so shoo them off by the acrid volatile oils of their outer coverings. At the same time they are attractive to higher animal life, which, being able to remove the outer peeling, finds the temptation which the tree has prepared for it, and as a return becomes a medium of disseminating the seeds. The mints, by their volatile, strongly-tasting oils in the leaves, preserve them from insects.

In the flower fields of southern France the village of Grasse is located about 10 miles south of the Maritime range of the Alps, and about 10 miles north of the town of Cannes on the Mediterranean. The many fertile valleys adjacent are ideal for the cultivation of flowers. The inception of the present perfume Industry was in 1776. Recently the trade has undergone a marked division into the two present lines, namely, the dealer in crude materials and the manufacturing perfumer who looks to the former for his supply of materials.

The blossoms of Rose, Orange, Violets, etc., when immersed in hot lard, give up their odor, and perfumed lard or pomade is formed, which is the basis of all handkerchief perfumes. By repeating the process, the lard eventually becomes saturated and is shipped in tins to perfumers who wash out the odor with pure spirit.

In 1886 a French chemist applied the process of ether extraction, with which all chemists are familiar, to flowers on the largest scale. He used petroleum ether, and the residue which he obtained was found to contain in highly concentrated form the substances to which the odor of flowers is due. The products so obtained were termed natural perfumes.

LANTERN VIEWS NOW.

(1) Represents the largest of several factories at Grasse. Building to the left, 80 x 300 feet, devoted to the manufacture of natural perfumes by the ether extraction process to which reference has already been made. To the right is the Grand Hotel.

(2) A field of violets. This flower with its delicate odor scarcely stands immersion in the hot fat in pomade making—the character of the resulting odor is imperfect—indicating that it is either not all extracted by the grease, or that some of the component bodies to which the odor is due are destroyed. The ether extrac-

tion process yields a much truer odor of violets. Fields of orange and lemon trees are usually utilized in planting violets, affording the right amount of shade. Replanted every five years, one acre yields 200 pounds of violets—"double Parma" variety.

(3) Gathering Roses.—The plants are cut down to the roots each year. The "Cabbage Province" variety is cultivated, yielding its delicious odor to the hot grease or benzene. Distillation with steam yields the well-known otto of Roses and rose water as a by product. Seven thousand plants to the acre yield 5,000 pounds of roses. Ten pounds of roses make 1 pound pomade, or 70 pounds for 1 oz. of natural perfume.

(4) *Tuberoses.*—Similar to American tuberose, but larger, more double. The odor breaks down under heat, not affected by moisture. The pomade is made by allowing the flowers to lie on the cold grease. Six pounds blossoms make 1 lb. pomade, or 50 lbs. for 1 oz. of natural perfume. Requires special care and constant irrigation.

(5) *Jasmin* growing in a field between the towns of Grasse and Cannes. Gathered only during one hour after sunrise or they are absolutely worthless. The odor is so delicate that a trace of moisture renders its extraction impossible. These Jasmin Grandiflora blossoms free from dew are picked and carried in baskets on the heads of peasant girls. Five hundred lbs. flowers from each acre.

(6) This picture represents a series of stills all in use.

(7) Orange blossoms being gathered. The tree is similar to our sweet orange. The fruit is worthless. The flowers distilled yield Oil of Neroli; with lard, pomade. From the leaves is distilled oil of petit grain and from the rind of the fruit Oil of Portugal. Orange flower water is collected with the distillate and sold for use in toilet waters and colognes.

(8) A picture from Dr. Piesse's book on perfumery, showing the wire-bottomed frames on which the flowers were scattered and piled close to exclude air, confining the odor of the layers of flowers to action upon the oil. Such was the method a century ago.

(9) This shows the same process, but the sashes are fitted with a glass plate upon which the melted grease was poured and allowed to solidify.

(10) A primitive method for extracting odor, a furnace in the back ground with a series of water baths. Successive lots of flowers were macerated in hot grease.

(11) Showing the screw press adopted in 1841, which made possible the production of pomade No. 24. Though primitive, it answered with satisfaction for many years.

(12) A drying room where flowers are dried by gentle heat for sachets powders.

(13) A still for distilling clove and similar oils. So arranged that the solid substance at the bottom of the still can be stirred to prevent caking. This same variety of still, on a larger scale, is still employed for this purpose in most establishments.

(15) A Lavender Still, Surrey, England, identical with the French Lavender still.

(18) Geranium oil is an important article of commerce. There are three general varieties differing in origin as well as in physical properties. These are the French Oil distilled at Grasse, the Algerian, and the Spanish. The principal source of this oil is Algeria. This picture shows 25,000 acres under cultivation at Boufarik in Algeria, placed under cultivation by a French colony, most of whom died off or left owing to malaria. A Grasse firm took over the estate and planted Eucalyptus trees in abundance, to be seen at the left and the right of the fore-ground, which made the district perfectly healthy.

(19) Panorama picture of a Geranium field under cultivation, not as good as the next slide,

(20) which shows a smaller section of these immense fields of Geranium plants. Three crops are gathered during the year. First when the plants are 8 feet high, the second when 6 feet high, and the third crop attains the size of what we call a large plant in America. The ground requires considerable fertilizer.

(21) Gathering Cassie flowers also grown on this immense estate.

"A Short Narcissus, a fair daffodil,
Pansies to please the sight and Cassie sweet to smell,"
expressed Dryden's idea of Cassie. An odor not appreciated by many, but indispensible in producing violet perfume.

(22) A closer view of the largest of the buildings shown in the first picture of this series.

(23) Copy of an old picture representing the stills used by early colonists in making Geranium oil.

(24) Showing 35 stills, up-to-date, for distilling the oil from the Geranium plant.

(25) Another view of the same building facing an opposite direction.

(26) Residence of the overseer of Boufarik.

(27) Buildings occupied by employees of the Boufarik factory.

(28) Farm-yard at Boufarik.

(29) The largest olive tree in the world. The oil is pressed at Boufarik and is quite priceless.

(30) A map of the Bulgarian Rose district from which all the Turkish Otto of Rose is distilled. It shows the main chain of the Balcan mountains. Parallel to the south is another chain joining at the west and east, forming a valley. Herein is raised and distilled all the Turkish Otto of Rose. This map was drawn by a Turkish gentleman, Mr. Shipkoff, whose fine brand of Otto of Rose is well known to perfumers.

(31) From a photograph; one of the small Rose Oil distilleries owned by one of the rose growers; Mr. Shipkoff in the back-ground making the usual test of the congealing point of the oil, which for his purpose must be between 65 and 67 degrees F. The stills or kalembics are made from hammered copper. The mixture of rose oil and water is collected in flasks with long, narrow necks. The otto is skimmed off the surface with a spoon. The rose water is thrown away, as transportation is difficult, and suitable containers are not to be had. The French rose water is sold at a good price.

(32) A Bulgarian peasant girl.

(34) A Bulgarian otto of rose distillery, showing the stills protected from the hot wind by an open shed.

(33) Peasants gathering roses for distilling. The mountains in the back-ground give a good idea of the topographical conditions. Labor is extremely cheap.

The people of to-day are very lavish in using perfumes; violet is at present the popular odor and used by all classes. Millions of dollars are spent annually in this luxury. The healthful, antiseptic properties of perfumes are recognized and utilized.

I wish to thank Prof. Lang, Mr. Bowman, Mr. Bain and Mr. Buchanan for their very kind assistance.

I appreciate the honor of being asked to speak before the Society of Chemical Industry.

Specimens are on exhibition—raw products from every corner of the globe; and finished perfumes.

Toronto, Ont. A. P. TAYLOR.

Siftings.

The Saponification of Shea-butter: (C. Dirks, in the *Seifenfabrikant*). Shea-butter is exported from East India and Africa and is made from the kernel of Bassia Parkii. This kernel is of the size of a walnut and surrounded by a fleshy capsule which is edible; the tree attains a height of about 25 to 35 feet. The fat is rather tough in consistency and sticky, varying from white to greenish gray in color, and is rather rich in stearine. But the stearine is quite brittle and for this reason shea-butter can be used in soap-making only in combination with other fats. Saponified by itself, lye of 10 to 12 degrees B. is most suitable, but even a moderate excess of lye suffices to separate the soap. The best combination is one-third shea-butter and two-thirds palm kernel oil, to which for some soaps it is well to add also peanut oil or some other stock calculated to counteract the brittle texture arising from shea-butter. The latter contains considerable free, fatty acid and yields correspondingly little glycerine; moreover, as brought into the market, it contains up to 15 per cent. of unsaponifiable impurities. Its brittle nature makes soap from this material ill adapted for most kinds of filling.

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Fixing Odors: (Th. Gallo, in *Seifenfabrikant*). The odors of flowers are evanescent, and the alcohol used as their chief solvent in perfumery evaporates rapidly, and in doing so tends to carry the perfume away with it. To retain the odors, there have been used since olden times materials which are strongly odorous in themselves, and which were known to remain for a long time when placed on the skin, etc. Such materials, still in use at this time, are musk, amber, castoreum and civet, and certain balsams and resins, *i.e.,* benzoe, tolu, peru, storax, copaira, myrrh, olibanum and (rarely) mastyx. All these fixatives are used in the form of alcoholic infusions, and the solid residues of the first named class (of animal origin) are then used in making sachet powders. These several substances are employed partly for the sake of their own odor, and partly because they retain other odors while they themselves remain on the perfumed clothes, etc.

In addition certain artificial fixatives have been originated and are coming into use to some extent.

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Errors in Soap Analysis: (Dr. F. Goldschmidt, in *Seifenfabrikant.*) The determination of the percentage of the fatty acids in a soap is generally one of the simpler analytical procedures, and yet in the case of cocoanut oil and palm kernel oil soaps there are certain peculiar difficulties that render the results of the usual quantitive analyses quite untrustworthy. As is well known, cocoanut oil and palm kernel oil differ from all other soap stocks by their exceptionally high proportion of certain very volatile, fatty acids, and in the ordinary methods of determining the fatty acids of a soap it is indispensable to subject the separated fatty acids to a drying process before weighing them. But in this drying process a very considerable proportion of the fatty acids of cocoanut and palm kernel oil are volatilized. Thus it has been determined that in the case of a cocoanut oil soap of 65 per cent. fatty acid content, after four hours' drying of the fatty acids, only 43½ per cent. of fatty acids were left behind!

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Perfuming Soap: (*Seifensieder-Zeitung.*) For agreeable, and at the same time low-priced, combinations of oils to perfume toilet soaps, the following are recommended—parts by weight:

Oils of: lavender (40); caraway (40); cassia (20); clove (20); fennel (10); peppermint (10).

Or: Lemongrass (30); Citronella (20); Clove (10); Cassia (5).

Or: Clove (100); Patchouli (50); Citronella (50); Peppermint (10); Cassia (50); Artif. Bitter Almond (25).

Or: Citronella (100); Anise (20); Sassafras (30); Cassia (10); Clove (10); Peppermint (20).

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Testing Glycerine for Iron: (E. Dowzard, in *Chemist and Druggist.*) The presence of iron in glycerine is very objectionable, as anything more than a very faint trace gives an unsightly preparation with tannic acid. It would be advisable to have a definite test in the B. P. for it. The test I have been using for a number of years, and which has always given perfect satisfaction, is performed as follows: Pour about 75 c.c. of glycerin into a Nessler glass; to this add 2 c.c. of a 5 per cent. solution of tannic acid, and make the mixture up to 100 c.c. with water. After mixing thoroughly, the liquid is allowed to stand for fifteen to twenty minutes. The color is then noted by placing the Nessler glass on a white tile in a good light, and looking through the column of liquid from above. At the most there should only be a slight darkening in color. The tannic acid solution should contain 20 per cent. of alcohol to prevent decomposition. Glycerin which will stand this test is now easily obtainable. Some samples when examined by the method turn to an almost inky blackness, and a great number give a very distinct darkening.

* * * * *

Soap Candy or Candy Soap: (English Correspondent of *Seifenfabrikant.*) Just as, in eating candy, our girls enjoy a change of flavor at frequent intervals, so they may be supposed to be greatly in favor of varying the perfume of their toilet soaps frequently. But they manifestly could not be expected to keep on their dressing table an assortment of a dozen or so of cakes of different toilet soaps. This consideration has caused an Englishman to evolve a grand idea; he proposes to make an imitation candy of variously perfumed soaps, and to pack it into boxes such as regularly used for candy. Each "candy" is sufficient for washing the hands two or three times, or for one complete morning ablution, and each box contains a variety of odors scarcely equalled by a box of mixed candy. Of course the color of the pieces varies accordingly. Slightly phantastic as this idea appears at first sight, we should be much disappointed if it did not contain the germ of a really valuable pointer.

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Surprise Soap-Premiums: The same correspondent just quoted reports another inspiration from England. In this case each cake of soap contains some premium or other (fancy pins, broaches, buttons, powder boxes, pocket knives, etc.), and the underlying idea is that the purchaser of these soaps not only obtains the premium, but is kept on pins and needles to "get to the bottom" of his piece of soap, in order to get over the harrassing uncertainty of what his find will be. Just how these articles are put into the cake of soap, and how they are kept from being spoiled by the soap and water, "deponent sayeth not."

* * * * *

Russia, according to the official census, has 558 soap factories. The consumption of soap in Russia is estimated at 1⅓ pounds per capita annually (compared to 13¼ pounds in the United States). This small consumption of soap is due largely to the high price of raw materials which makes soap an expensive article, while at the same time the import duties limit the use of foreign soaps to a comparatively small amount. Vegetable fats are also subject to considerable import duty, so that Russian soaps are made almost entirely of tallow and grease. The only vegetable oil used in anything like notable quantities is coprah oil.

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Sapo-Kastanol: A druggist in Germany has obtained a patent on the addition of saponin, derived from the horse chestnut, to a neutral soap, for the purpose of increasing its foaming properties without having recourse to cocoanut oil.

* * * * *

Soap Making in South Africa: (Wiener *Seifensieder Zeitung.*) Apart from a rather small soap factory at the Cape, South Africa depended until lately for most of its soap on Europe. Recently a company has been organized in Natal, with a capital of £120,000, for the manufacture of soap, stearine, and glycerine, and its factory is now in full operation, with an annual capacity of 4,000 tons. Cocoanut and peanut oil are available locally, which means a great saving against the former exportation of these oils to Marseilles, etc., and re-importation of soap at a great expense of freight, duty and commissions. A considerable quantity of soft soap is used in lubricating mining machinery, and glycerine is needed very largely in South African mines in the form of dynamite.

Need we add that the company named is a subscriber for the AMERICAN SOAP JOURNAL?

The Chemical Factor in Human Progress.

(Continued.)

Let us now look into the subject of live stock and see what chemistry has done there. Lavoisier had shown that animal warmth was due to processes of oxidation, a kind of burning of the carbonaceous and hydrogenous substances in the body, just as the heat of burning wood is caused by the oxidation of the carbon, its chemical union with oxygen. Dulong and Despretz proved that nine-tenths of the heat produced in the body was owing to this cause. The heat of our bodies appears to be a

kind of flameless fire. Bodily heat is very much like steam heat, and to produce it fuel must be constantly kept burning under what may be termed the boilers of our organisms.*

In the subject of animal nutrition the mighty mind of Liebig again found a vast field to till. In many ways this was no new and untrodden ground. Physiologists had accumulated hundreds of interesting facts, but the great question, how is it that although the nutrition of the various animals is so different, the composition of their bodies is so nearly the same, had not been answered. The flesh of the ox, the bird, and the man is about the same thing. The change of substance in a hungry herbivorous animal is about the same as in a carnivorous one. From the day of Hipocrates to 1840, this question had been becoming more clearly defined, but the answers to it were conflicting and unsatisfactory. Suddenly, like a flash of lightning, the darkness was dispelled. The essential facts had all been found, but a chemist was needed to translate and explain them. It was like the old story of the writing on the wall. It was there, but no one could read it. It would take me too far from my subject to attempt to explain the details of Liebig's views of physiological chemistry, to relate the fierce polemic wars waged on these questions; for the dictum of Ranke is as true in the history of science as in the history of nations: "All progress is through conflict." Suffice it to say that Liebig was the first to definitely assert that the animal must find the chief constituents of its blood, which form and nourish its whole body, ready formed in its food, and these substances originate and are found in the plants. Following this up, we find that the animal is a kind of chemical factory in which many chemical processes are carried out. The machinery belongs to physiology; the processes, however, are largely chemical.

Chemical statistics in relation to animal life were collated and increased. Animals were analyzed wholesale, and their chemical composition determined. For instance, Lawes and Gilbert found that the analysis of 348 whole sheep gave an average of 2.34 per cent. of ash, 7.13 per cent. of protein, 70.4 per cent. of fat, and 20.1 per cent. of water. All kinds of animals were examined, and the composition of entire specimens and of the various organs and fluids determined. Foods were examined chemically, and, in fact, not only the body of the animal, but all that went into it and came out of it was analyzed by the chemists. The result of all this was that chemists found the animal to be as susceptible of experiment as the plant. Live stock can now be fed, for instance, to make flesh, to make fat, to yield milk, to produce work, or to simply maintain life. The nutritive elements of food can be determined and their digestibility estimated. The economy of foods can be calculated, and, in fact, the whole subject of animal-raising has passed from empirical management to scientific organization, and in this field, too, the progress has been rapid, and is still wonderfully rapid.

The animal is now studied very much like a steam engine; in the one case we feed coal and get steam, power or heat, in the other, we feed fodder and get milk, flesh, or power, as the case may be. A "ration" can now be made in which the digestible proteine, the fat and carbohydrates can be obtained from the most various sources, and the fluctuations of the markets taken advantage of to produce the raw materials. The nutritive value and digestibility are carefully adjusted, and, as a result, for instance, we are able to produce milk at a total expense of 2½ cents a quart. In this country the science of live stock feeding is as yet in its infancy. We are, at least in the West, gathering the blossom of the land. Our cheap beef* and our cheap corn can be produced only for a time. Sooner or later the riches taken from the soil must be put back again. It would be hard, indeed, to trace all the effects of these discoveries on the gradual progress of civilization. Cheaper food and more economical and profitable agriculture strengthen the great tap-root of all civilization and human relations on this earth.

As a result of all this great advance in our knowledge of scientific agriculture farming has become a profitable profession, and I predict that more and more we shall see educated young men entering it.†

The chemical study of foods has been carried up to the feeding of men. Prof. Atwater, of Wesleyan College, has published the results of his investigation on the cost of supporting workmen, and finds that the amount of food necessary to support a man, and enable him to do his daily work, can be obtained at a cost of 12 cents a day. For 45 cents a man can live sumptuously. When meals are provided for a number at once the cost is ridiculously small. It might be well for some of the knights of labor and serfs of capital to look into these matters. What a frightful waste there must be in our household economy of to-day.

What a future looms up in this field of study. Think of the suffering and want that this accurate chemical work will alleviate when it is understood and appreciated. The German government supplies the people in certain districts with plainly written tracts explaining what are the most valuable nutriments in foods and about what amount of each is needed to make a daily ration which shall neither want nor waste valuable substance. Our own government is doing the same. Chemical knowledge gives an enormous increase in the purchasing power of a country, and greatly ameliorates

the environment by making it more favorable to the people.

In the days of old, people supposed that every object was a particular kind of matter. It is true that Aristotle believed in four elements, earth, air, fire and water, but these were used largely in a figurative sense. Wood was a substance, so was coal, so was water, so was air. They were supposed to be different kinds of matter. As chemistry began to develop, during the last hundred years, it was found that all the different kinds of matter about us could be resolved into a certain number of simpler substances, and that these simple substances could not be further altered. They were hence called elements. So far about seventy-five of these elements have been found. All of the material objects about us are compounds of these elements; some, of course, being very common, and others more or less rare. Oxygen, for instance, a colorless gas, but when in combination, giving rise to compounds of the most various properties, constituting one-half of the earth's crust, nearly one-quarter of the air, and about one-half of clay, sand and limestone. At first, methods of ascertaining the percentage composition of substances were very crude, but during the last fifty years they have, by means of the exquisite delicacy of the chemical balance and our increased knowledge of the chemical behavior of substances, been brought to a very satisfactory state of exactness. A student can now analyze with ease substances that would have perplexed the professor of fifty years ago. Aside from the immense advance in our knowledge of chemical causes and effects made by this powerful lever placed at our disposal, the public has been afforded a most marked protection against fraud and imposition. No matter how high-sounding and laudatory the announcement of certain articles may appear, the cold-blooded analysis of the chemist at once dispels the illusion. There is no lack of unscrupulous persons who take advantage of many a chemical discovery to fill their own pockets at the expense of the public. The extent to which adulteration is carried to-day cannot be conceived of by one who is not conversant with the results of the analysis of commercial articles. Indeed, the popular ignorance on this subject is astounding. The continual demand by the public for cheap articles drives the manufacturers to all sorts of ways and means to adulterate. To counteract this, boards of health are continually analyzing articles of food. But commercial articles, however, are, as a rule, examined only by those who know how a chemical analysis can protect the buyer. Some years ago New York paid $10,000 a day for the water added to the milk sold in that city. In every city one will find many articles of daily use are systematically adulterated. The time will come when every city will have to have its board of public analysts, who shall analyze all articles free of charge. Such boards exist now in France and Germany, and the results of their work throws a somber light on the strivings of human cupidity. Cream of tartar often contains as high as 80 per cent. of adulteration, illuminating oils are not seldom about as safe as gunpowder, soaps may be one-half water, borax is sometimes mostly baking soda. In the matter of fertilizers the State experiment stations examine free of charge all articles, and determine their true value, but hundreds of other articles should also be tested by the government that the public may be protected. Slowly but surely the keen weapon of chemical analysis is lopping off all the unsightly side-shoots of our civilization. As long as food and drink consist of chemical substances and so many of the articles bought and sold are chemical compounds, it should be known to what extent they are what they are claimed to be.

What is the effect of the increasing accuracy in chemical analysis upon our civilization? It takes every article on its true basis of intrinsic worth. Metals, ores and articles of commerce, have a certain value depending on the nature and amount of their valuable constituents. This is determined by analysis, and business is at once placed upon a solid foundation, and insecurity in value ceases. Chemical analysis is the balance wheel of trade. It establishes responsibility. It says to the cheat, honored and respected though he may be in the community —and there are thousands of them—"Thou are the man." It compels accuracy of statement—rigid truth. There is no effervescent sentiment in a chemical analysis. It makes honesty compulsory. Articles of food and drink must be what they claim to be, no more, no less. A man who adulterates is a liar and a thief, if not also a coward. He may cause ruin, disaster and death. A man who buys adulterated articles is a fool. Chemical analysis is one of the greatest agents for the protection of a community that there is, and its power is increasing every day. Again note: Chemical analysis shows clearly which of several articles are the best. Then we will buy that article that we know to be the best. And so chemical analysis, disclosing to the world where true worth is to be found, develops countries and gives them resources which may enable them to compete with greater nations. It shows us the relations between the material objects about us, and our own relations to them. For instance, the atmosphere, which is necessary to our existence, is composed of oxygen and nitrogen. The oxygen is being continually consumed and appears again as carbonic acid, the results of fires, fermentation and the respiration of animals. The plants consume the carbonic acid and give back the oxygen again to a great extent. There are thousands of these agents at work to change the com-

position of the air. And yet its composition does not practically vary. Should it, however, then life would feel the change at once. An increase of the percentage of oxygen in the air we breathe would produce a marked effect upon us. It is wonderful that the balance of these conditions is kept in such equilibrium on such a scale.

And still again, chemical analysis showing how all the objects about us are composed of but a few different kinds of matter, how, indeed, we ourselves consist of little more than a dozen elementary forms of matter, compels us to gape in bewilderment at the evolution of a universe with its endless variety of detail, out of less than a hundred different kinds of matter.

(To be continued.)

New Trade Mark Bill.

The wide interest which is now being displayed in the subject of trade-mark legislation, and which is due largely to the recent decisions of the United States Supreme Court declaring that the existing laws afford no protection to trade-marks used in interstate commerce, has been emphasized during the past week by the introduction in the Senate by Senator Platt, of Connecticut, of the most comprehensive measure on this subject thus far presented.

The new bill may be said to combine the most important measures heretofore presented by Senator Kittredge and Senator Stewart, the former measure providing for elaborate amendments in the existing law, while the latter embodies a plan for transferring the jurisdiction of trade-marks to the Department of Commerce and Labor.

The bill as introduced by Senator Platt carries with it the indorsement of the Patent, Trade-mark and Copyright Committee of the American Bar Association, which had previously indorsed the Kittredge bill, but which now advocates the measure presented by Mr. Platt as more comprehensive, and as providing a thoroughly practicable method of transferring the trade-mark division of the Patent Office to the Department of Commerce and Labor. The new bill also embodies a feature not embraced in previous measures, granting protection to parties employing their trade-marks on containers which, under the new measure, may not be refilled except by the owner of the trade-mark without the complete obliteration of all signs and symbols constituting any part of the registered device.

The requirements as to what shall constitute a registrable trade-mark are identical in the Platt bill and the Kittredge measure. The privileges accorded foreigners are similar, though described in somewhat different terms, the Platt bill provding that "any application for registration of a trade-mark filed in this country by any person who has previously regularly filed in any foreign country, which by treaty, convention, or law affords similar privileges to citizens of the United States, an application for the registration of the same trade-mark shall be accorded the same force and effect as would be accorded to the same application if filed in this country on the date on which application for registration of the same trade-mark was first filed in such foreign country, provided such application is filed in this country within four months from the date on which the application was first filed in such foreign country."

The fees under both Platt and Kittredge bills are the same and are very important reductions from the existing schedules, the fee for each original application for registration being $10 and that for a renewal $5, while the fee to be paid on an appeal from the examiner in charge of trade-marks to the Secretary of Commerce and Labor is $10.

One of the most important features of the new bill constitutes a wide departure from other measures and provides the procedure against parties infringing trade-marks, as follows:—

"Sec. 19. That the registration of a trade-mark under the provisions of this act shall be prima facie evidence of ownership. Any person who shall, without the consent of the owenr thereof, reproduce, counterfeit, copy or colorably imitate any such trade-mark, and affix the same to merchandise of substantially the same descriptive propertics as those described and in the registration, or to labels, signs, packages, wrappers, or receptacles intended to be used upon or in connection with the sale of merchandise of substantially the same descriptive properties as those described in such registration, and shall use the same in commerce with a foreign nation, or among the several States, or with the Indian tribes, shall be liable to an action at law for damages therefor at the suit of the owner thereof; and the party aggrieved shall also have his remedy according to the course of equity to enjoin the wrongful use of such trade-mark in foreign commerce, or among the several States, or with the Indian tribes, in any court having jurisdiction over the person guilty of such wrongful act; and upon a decree being rendered in any such case for an infringement, the complainant shall be entitled to recover, in addition to the profits to be accounted for by the defendant, the damages the complainant has sustained thereby, and the court will assess the same, or cause the same to be assessed under its direction; and whenever in any action a verdict is rendered for judgment thereon for any sum above the amount found by the verdict as the damages sustained, according to the circumstances of the case, not exceeding three times the amount of such verdict, together with costs. And in any case where a verdict has been found for the plaintiff, or an injunction issued, the court may order the delivery

up and the destruction of all labels, signs, packages and so forth, upon which the defendant may have used the trade-mark of the plaintiff, or complainant, or the colorable imitation thereof."

A quasi-criminal feature of the new bill, which provides for the punishment of persons who not only infringe a registered trade-mark, but defraud the public thereby, will attract much attention. It imposes heavy penalties, including fine and imprisonment, under conditions set forth as follows:—

"Sec. 22. That whenever a trade-mark, duly registered under and in accordance with the provisions of this act, shall be used by the owner thereof in foreign commerce, among the several States or with the Indian tribes, any person who shall without the consent of the owner thereof, and with intent to defraud, apply such trade-mark, or any counterfeit copy or deceptive imitation thereof, to merchandise of substantially the same class or description as described in such registration in any State or Territory into which this merchandise lawfully bearing said registered trade-mark is imported, or from which it is exported, or who shall, with intent to defraud, apply such marks to labels, signs, packages, wrappers or receptacles intended to be used upon or in connection with the sale of said merchandise in any such State or territory, or who shall, with intent to defraud, sell or offer for sale in any such State or Territory, merchandise so marked, or such labels, signs, packages or receptacles intended to be used as aforesaid, knowing such to be the intention, and who shall persist in either of these acts after being notified of such registration and requested to desist therefrom, shall, upon convicition thereof, be punished by a fine of not more than five hundred dollars or by imprisonment at hard labor for not more than one year, or by both such fine and imprisonment, in the discretion of the court. No person shall be liable under this section unless it appear that the offense has been committed in some state or territory where the registered trade-mark has within one year before such offense been lawfully used commercially on or in connection with merchandise of the class or description specified imported into such State or Territory or exported therefrom, or in commerce with the Indian tribes."

Similar penalties are imposed upon any person who knowingly reproduces a registered trade-mark with intent to defraud, or who buys or sells goods to which registered trade-marks are fraudulently affixed, or who, with intent to defraud, "fills, or procures to be fraudulently filled, any package to which is affixed any trade-mark duly registered under the provisions of this act, or any colorable imitation thereof calculated to deceive the public, with any merchandise or article substantially the same descriptive properties as those referred to in such registration, knowing the said trade-mark to be counterfeit, or knowing the merchandise not to be the genuine merchandise or article referred to in such registration, and sells, or uses, or offers for sale or use such counterfeit merchandise in commerce with foreign nations, or among the several States, or with Indian tribes, shall on conviction thereof be punished as prescribed in section twenty-four of this act."

The reuse of containers bearing trade-marks by persons other than the owners thereof is forbidden and made punishable by a fine of not more than $500 or by imprisonment at hard labor for not more than one year by the following section:—

"Sec. 28. That any person who with intent to injure or defraud the owner of any trade-mark duly registered under the provisions of this act, or any other person lawfully entitled to use or protect the same, shall, in commerce with a foreign nation, or among the several States, or with the Indian tribes, buy, sell, offer for sale, or deal in any used or empty box, envelope, wrapper, bottle, cask, case or other package to which is affixed, so that the same may be obliterated without substantial injury to said box, or other thing aforesaid, any such registered trade-mark not so destroyed, defaced, erased or obliterated as to prevent its fraudulent use, shall, on conviction thereof, be punished as prescribed in section twenty-four of this act."

The decidedly drastic provisions of this bill which seek to treat as crimes offenses which have heretofore been proceded against by civil action will necessarily provoke considerable opposition to this bill, but it is contended by friends of the measure that in no other way can the trade-mark laws be made effective. The representatives of the American Bar Association, who have given much thought to this subject, will appear before the Senate Committee on Patents in advocacy of this measure, when opportunity will be afforded both its friends and opponents to be heard at length.—*Oil, Paint and Drug Reporter.*

Moving A Large Oil Tank.

Perhaps one of the greatest engineering feats ever accomplished on the water by any house mover has just been successfully performed in Pittsburg Pa.

The subject in question is the removal of a ⅝-inch steel oil tank, 80 feet in diameter, 26 feet high, weighing 150 tons, a quarter of a mile down a 30-degree hill to the river, placed upon five sand barges, towed a mile down the river, and moved 200 feet up the steep bank. All the more marvelous is it when we consider that five tracks of the Pennsylvania Railroad had to be crossed within forty minutes in order not to interfere with traffic and that the members of the Kress-Hanlon firm, who

engineered the work, were but twenty-three years of age.

This monster tank was sunk 7 feet in the ground; and in order to raise it, a trench 4 feet wide and 7 feet deep was dug around it, and 32 holes, 4 feet square, 2 feet deep, and 8 feet apart, were then tunneled under it, and wooden blocks inserted. By the aid of 64 five-ton jacks, two under each block, the tank was raised 4 feet, when it was underpinned with 12-inch timbers; and the necessary running timbers being securely fastened with 7/8-inch chains, the tank was gradually moved under the steady power furnished by two horses and the necessary block and tackles, crabs, and ropes.

When the railroad was reached, it was 38 feet above the ground. After being lowered 32 feet, chalk lines were stretched across the railroad tracks, and the cribbing built on the opposite side of the same. After a battle with the numerous electric light and telephone wires, the tank was rolled over the tracks to within ten feet of the bank of the Allegheny River. Being lowered within 24 feet of the water, it was moved on five sand flats, 16 feet wide and 90 feet long. These were made stationary by ratchets and steel cables 3/4 inch thick, which were placed from the first to the fifth flat, thus making the five flats act as one. The boats being thus made fast, the tank was slowly rolled into the position as seen in the picture. It was then carried one mile down the river, and transferred to its new location.

The work was done for the Atlantic Refining Company, and only required twenty-four men six weeks to accomplish the task.

That Natural Soap.

The old story of soap being mined "somewhere out West" is still alive. The latest version is that of the New York *Times,* as follows:

The receipt at the World's Fair of an exhibit of "pure castile soap" that was mined from a mountain of soap in Nevada recalls George M. Pullman's reason for not continuing the use of this natural soap on his famous palace cars.

James A. Yerington of Carson City, Executive Commissioner to the World's Fair from Nevada, was one of a number of guests entertained by the sleeping-car magnate at his residence at Pullman, a suburb of Chicago, several years ago. During the evening Mr. Pullman turned to the gentleman from Nevada and said:

"Mr. Yerington, I had a quantity of that natural soap you mine in Nevada refined and used it on all my cars."

"I know you did, Mr. Pullman," was Yerington's reply.

"I use it yet in my home here, but I don't use it on the sleeping cars any more."

"I knew you had discontinued its use, and I have often wondered why," said Mr. Yerington.

"For the most natural reason in the world," said Mr. Pullman. "Every time a train passed through Nevada some citizen would board one of our cars, and his State pride would lead him to boast of the wonderful resources of Nevada. He would invariably tell about that mountain of soap, and then add that the soap in the sleeping car lavatory was dug from that mine. Instantly there would be a rush for the lavatory, and all of the soap would be confiscated for souvenirs. I couldn't stand to use a soap that I had to chain to its place, and we could not carry enough to supply the demand."

The soap is mined from a mountain near Elko, Nev., and the supply is inexhaustible. One may enter the mine with a butcher's knife and cut a bar as large as he wants. The soap is beautifully mottled, and, when exposed to the air, hardens somewhat. The mountain is of clay of fine texture, and it contains much boracic acid, soda, and borate of lime. The iron and other metals give it the beautiful colors. In its natural state it is rather strong of alkali, and removes ink and stains readily.

AROUND THE SOAP FACTORIES.

News items sent us by our readers will find prompt attention in this column

The Southern Grease Company has been granted a permit for the erection of a factory in New Orleans for the refining of oils and fats and the manufacture of soaps and by-products. It was stated that the promoters had been driven out of Chicago by the agitation in that city against rendering plants and like concerns, and had decided to establish themselves in the Southern city. A site has been leased from the Crescent Slaughterhouse Company, and work will commence at once on the buildings.

A meeting of the creditors of the Oil Seeds Pressing Company was held last week at the office of John J. Townsend, referee in bankruptcy. Claims were filed by eighty-five creditors aggregating $41,449, and James F. McNaboe was elected trustee. The total liabilities are $103,678, and nominal assets $40,945.

WATERTOWN, Mass., March 21.—Francis Kendall, aged 83, died at his home on Church St., yesterday afternoon quite suddenly. Mr. Kendall sustained a fall last Thursday, but his friends believed that he had about recovered from the effects of the accident. The

family physician called yesterday and found his patient in a greatly improved condition and thought he would be around again in a day or two. Along toward evening Mr. Kendall was taken ill and died before aid could be summoned.

Mr. Kendall was long identified with the manufacture of soap, and was perhaps one of the best known men in the trade in this country. He had lived in Watertown about all his life, and was extremely popular. He was a prominent member of the First parish society, and was quite prominent in the Unitarian club. He left two sons.

The Beatrice Manufacturing Company has been incorporated at Portland, Ore., with a capital stock of $10,000, for the purpose of engaging in the manufacture of soap. Among the incorporators are W. C. Manchester, and W. S. Hufford.

The plant and business of the Industrial Soap & Oil Company of Brantford, Ont., has been purchased by the Ritchie, Hearn Co., of Toronto.

The Proctor & Gamble Company is planning the erection of a new cottonseed oil mill at Atlanta, Ga. The mill will have a daily capacity of 150 tons of seed, and will cost in the neighborhood of $150,000. Work on the plant will commence in the spring.

J. J. Burns has resigned as president of the Cosmo Buttermilk Soap Co., in order to devote his entire attention to his other interests. Warren E. Burns has been elected president of the company in his place. K. G. Ripley has been elected vice-president and will continue in charge of the local factory. Arrangements have been made whereby the business of the factory and the number of employees will be largely increased in the near future.

PATERSON, N. J., Feb. 28.—Counsel in the Circuit Court suit of the Enterprise Mill Soap Company, of Philadelphia, against the Dordoni Silk Company, of this city, to recover $5,000 damages on a book account for a ton of soap ordered and for which payment was refused on the ground that it was not chemically free from acids, were in court this morning at 8:30 o'clock and summed up the case, after which Judge Scott charged the jury, which went out about 11 o'clock.

A number of expert chemists were examined in minute detail. the defense was that the soap injured silk, and a counter claim was put in. The jury came into court shortly before 2 o'clock this afternoon with a verdict for the plaintiff in the full amount sued for and interest, amounting to $5,635.56.

Among the latest brands added to our list is one owned by Geo. Catlin of Chicago and which we have entered in our alphabetical list in somewhat abbreviated form. Perhaps we ought to state that, as it was sent to us, it reads:

CHILES'
CACTUS CREAM
SKIN SOAP.
Trade Mark. Chiles & Co.

Incorporated: United Oil & Soap Company, Chicago, Ill.; capital, $10,000. R. L. Foote, L. E. Gary and E. C. Martin incorporators.

Charles F. Miller of Lancaster, Pa., who last October purchased the soap works of R. W. Bell of Buffalo, went to that city last week to personally arrange for the enlargement of the plant.

COUNCIL BLUFFS, Iowa, March 7.—The first floor of the building occupied by the Getty Soap Company at the corner of Mynster and Main Streets, gave way yesterday afternoon and a section of it fell several feet to the ground. A large amount of stock was stored on the floor but was not injured by the accident. A slight bulge in the west wall was the only noticeable injury to the building as a whole, although the flooring will have to be replaced. F. D. Mitchell, the manager of the Getty Soap Company, states that the damage all told will be slight.

The Bartlett Soap Works at Winsted, Conn., whose owner died lately, have been sold to Samuel & Isaac Goldich.

The San Gabriel Essential Oil Co., of Los Angeles, has increased its capital stock from $20,000 to $200,000.

Louis G. Erickson, in proceedings brought by the Erickson Soap Company, was summoned to appear before Judge Case in the Superior Court to show cause why he should not be held in contempt of court because of an alleged violation of a restraining order issued against him on December 26. The application submitted to Judge Case, which was signed by the clerk on his order, sets out that the plaintiff company believes that Louis G. Erickson has continued to manufacture and sell and deal in the soap that he was prohibited from manufacturing under the terms of the restraining order. The penalty for the violation of the

original order was fixed at $2,000. Since that order was issued the Erickson Soap Company has gone into the hands of a receiver. Its affairs are now being managed by Henry S. Goslee.

L. B. Darling & Co. of New Haven, Conn., have applied to the board of aldermen for a license for making soap.

The Ahamo Soap Company of Omaha, Neb., has filed articles of incorporation with a capital stock of $50,000. R. P. Lawrence and John Michaelsen are the incorporators. The company will manufacture soap and scouring compound.

The Southern Soap Co., of Birmingham, Ala., has been incorporated. Capital, $10,000.

BOSTON, Mass., March 1.—David M. Cohen and Henry S. Cohen, formerly partners, under the firm name of the Standard Soap Works, at 12 Canal Street, filed individual voluntary petitions in bankruptcy yesterday, owing $62,908.52, with no assets. The debts scheduled are all partnership debts and were all incurred by the firm last year. The unsecured claims are held by 140 creditors, and amount to $53,253.52.

The Summit City Soap Works of Ft. Wayne, Ind., will erect a new factory building, 100x150 feet, and three stories high.

The new factory of the Procter & Gamble Co. at Kansas City was progressing very nicely two weeks ago, when an almost unheard-of interruption suddenly caused a not inconsiderable delay. The details are described by a press despatch as follows:

KANSAS CITY, Mo., March 17.—Sixteen masked men, heavily armed, went early this morning to the plant of the Procter & Gamble Soap Company, now in course of construction in West Armourdale, and after overpowering the watchman, wrecked the steel frame work in the first story of the oil refinery building. The loss to the Kansas City Wire and Iron Works, which has the steel construction contract, and to the Procter & Gamble Company is estimated at $5,000.

S. M. Williams, Superintendent of the plant, said that the opening of the plant will probably be delayed two months by the work of the vandals, and this alone will be a great financial loss to the company. It is supposed that the men were union structural-iron workers seeking revenge.

The union has a grievance against the wire and iron works, where a strike is in progress, but there were no labor troubles at the Procter & Gamble plant. The vandals overpowered J. H. L. Rose, the night watchman, and held him prisoner while they went about their work of destruction. Detectives are at work on the case, and wholesale arrests of union men are expected.

The Packer Tar Soap Company of Mystic, Conn., has made arrangements to build a new plant in Stonington. The company has notified the selectmen of Stonington that the plant will involve an expenditure of more than $30,000, and it asks an exemption from taxation under the terms of the policy of the town toward new industries.

PATENTS AND TRADE-MARKS.

The following list of recent Patents and Trade-Marks is reported by W. G. HENDERSON, Solicitor of American and Foreign Patents and Trade-Marks, Norris Bldg,, Washington, D. C. A copy of any of the following will be furnished by him for 15 cents.

PATENTS.

752,573. *Making Chip-Soap.* William M. Morse, Chicago, Ill., assignor of two-thirds to L. R. and E. R. Speare, Boston, Mass.

753,706. *Apparatus for Molding Soap.* Frederick C. Ihrer, J. W. Alexander, J. F. Barr and J. M. Ochiltree, Burlington, Iowa.

754,243. *Soap Cake.* Leopold S. Samuel, Newark, N.J.

TRADE-MARKS.

42,104. *Washing Compound.* Frank Harrison, Norfolk, Va. The word "Rozine."

42,105. *Certain Named Scouring and Polishing Powder for Metals.* The Abrazine Company, New York, N. Y. The word "Abrazine."

42,107. *Perfumes in Liquid and Powdered Form.* Eddy Palmer, New York, N. Y. The word-symbol "Ariston."

42,211. *Scouring-Soap.* The Standard Soap Company, San Francisco, Cal. The word "Brightshine."

42,212. *Washing Fluid.* Washaway Manufacturing Co., New Bedford, Mass. The word "Washaway."

42,213. *Perfumery Extracts and Essences and Toilet Waters.* A. J. Hilbert & Co., Milwaukee, Wis. The word-symbol "De Luxe."

LABELS.

10,762. Title, *"Type Soap."* (For Saponaceous Compounds.) Type Soap Co., Pierre, S. D., and Chicago, Ill.

Additions to Our Brand List.

346 Beaumont Soap Co., Mayfield, Ky.
347 Lockwood Soap Co., Kansas City, Mo.
348 Oklahoma Soap & Oil Co., Oklahoma City.
349 M. F. Windsor Soap Co, East Buffalo, N. Y.

Allpine Tar 337
Ammonaptha 347
Aquidneck; F. P. Garrettson & Co., New York City.
Bauty 32
Bestever 286
Big Injun 348
Bi-Naptha 348
Bleachem Soap 341
Blo-Re-Mo 333
Breath of Heliotrope 337
Breath of Lilacs 337
Breath of Roses 337
Breath of Violets 337
Brightshine 106
Cade-ola 3
Chiles' Cactus Cream Skin S.—Geo. Catlin, Chicago.
Coaster 32
Cream Naptha 343
Cricket Soap Powder; Davis & Marston, New York City.
Der-Foda 3
Egg Tar; Lee Specialty Co., Detroit, Mich.
Gasene 106
Gasoline Laundry Soap 120
Gray-beard 348
Green Oil Soap 341
Hasn't Scratched Yet; Bon Ami Co., New York City.
Home Pride 347
India Castile 337
La Platte 337
Lily Blossoms 337
Marigold 106
Milo 106
Monahan's Green Soap 341
Naptha Washing Powder—(for Canada) W. H. Judd & Co. Hamilton, Ont.
Norway Tar 349
O. K. Tar 348
Oilex 348
Orchid Blossoms 337
Oriental Tar 337
Papoose 348
Polar Bear 106
Pow Wow 348
Queen Regent 337
Quo Vadis 337
Raven Tar 337
Red Hot 38
Rio Grande 337
Rose Blossoms 337
Rozine—Frank Harrison, Norfolk, Va.
Snow Float 348
Soapex; W. R. Hollingshead Co., New York City.
Summer Blossoms 337
Sunburst 106
Tar Egg 347
Tarlex 348
Tarline 349
The Two Tars 286
Top Notch 106
Transparent Brilliant 337
Transparent Rose 337
Type Soap—Type Soap Co., Pierre, S. D and Chicago.
Veribest 286
Violet Blossoms 337
Washaway—Washaway Mfg. Co., New Bedford, Mass.
Wheel 32
White Purity 349
White Zephyr 349
Yellowstone 106

Chemical Examinations and Advice for Soap Works.

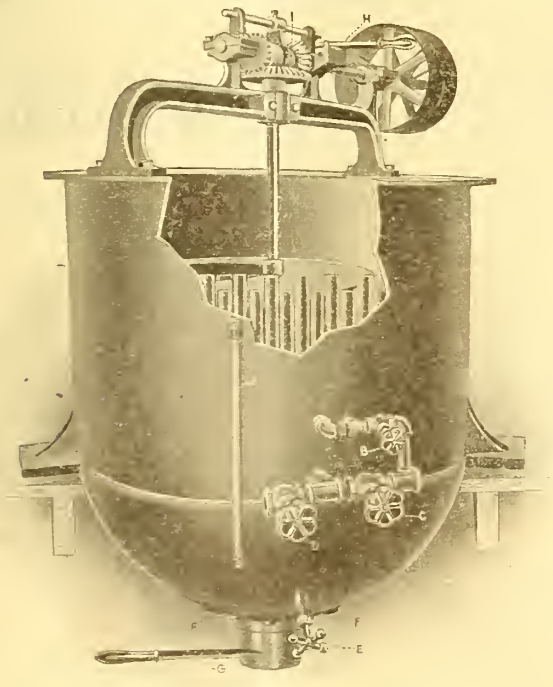
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Alex. P. Mende, President 120 Liberty St., New York

SUPPLEMENTARY LIST

OF THE

BRANDS OF SOAP MANUFACTURED IN THE UNITED STATES

Including also the Brands of Foreign Manufacture Registered as Trade-Marks in this Country.

NOTE: This list is compiled with the greatest possible care, but the publisher does not assume any responsibility other than to correct and to complete the list according to data obtained from official sources or furnished by the trade. Brands registered in the patent office as trade-marks or labels are given with the name of the party registering same. Brands or names marked * are those which were found to be used by more than one firm or the owner of which could not be ascertained. ☞ SEE THAT ALL YOUR BRANDS ARE ENTERED IN YOUR NAME.

3—Liberty Mfg. Co., Chicago.
344 Home Soap Co., N.Y.
345 Columbia Ref'g. & M'f'g Co. Ltd, New Orleans.

Abrado, Floridine Mfg. Co., New York.
A Happy Home 4
Alabama Tar 3
All-need it 286
Amazon Coco 337
Amber Rose 346
Anchor Castile 3
Angelus 54
Antelope 3
Antillia 2
Anty Up 340
Apple Blossom 337
Atoka 346

Baby Mine 8
Bannock 3
Beauty Belle 151
Beaumont's Shaving 3
Beef Oil 340
Bell's Brown 343
Bell's Naphtha 343
Ben Hur 3
Bicycle 3
Big Glycerine 3
Billy-Goat 340
Blossom Bouquet 3
Blue Chip 340
Blue C oud 2
Blue Coco 340
Blue Family 340
Blue Monday 340
Blue Olive 340
Boast 3
Botica Francisca 3
Bouquet Chic 3
Bouquet Reverie 3
Brazilian Bath 3
Bnnny—Hewitt Bros. Soap Co. Dayton, Ohio.

Calcutta Castile 337
Calumet 3
Camille 3
Ceske Slovonsky 3
Ceske Polski 3
Chlorine 340
Cleaneasy 286
Climax Chip 54
Cloth Pin 340
Cloths Pin 340
Coa Nut 346
Coca Foam 3
Columbia 3
Conto & Elroy Castile 3
Credential Shaving Stick 16
Crown Princess 337
Crystal Honey 346
Crystal Sulphur 3
Crystal Palace 3
Crystal Transparent Tar 3
" " Carbolic 3
Cuban Rose 3
Cuta Alba 3
Cultoderma Medicated 3
Cycle 3

Dactylis 11
Dermicura 327
Diadem 3
Druggist's Transparent 3
Dr. Allens Medicated 3
Durango Best, Durango (Colo.) Soap Co.

Elk's Bouquet 346
Empress Eugenie 115
Empire Geranium 337
Encryl Encryl Ltd., Hull, England.
Eureka 3
Evergreen 286
Expert 286

Facine 340
Fairbank's Primrose 2
" Scouring 2
" German Fam. 2
" Glycerine-Tar 2
" Mottled Germ'n
" Olive 2
" Navy Blue 2
Federal Family 1
Floral Feast 115
Flannel 2
Flip 345
Force, Cincinnati Soap Co., Cincinnati, Ohio.
Fragrant Honey 2
French Violette 3
Frog 340

Gem Wash, Componnd, Clara Pearce, Philadelphia.
Georgia Oleine 29
Geronne Violette 3
Geyser 343
Giant 3
Gloriola 29
Glycerated Tar 346
Glycerderma 3
Golden Rose 3
Gold Seal Soap Flour 340
Goodhair, Goodhair Remedy Co., Newark, Ohio.
Green Olive Chip 340
Green Palm 340
Green Seal Chip 340
Gusher 340

Hard Maple 155
Heliotrope Blanc 3
Heliotrope Ideal 334
Helix 54
Hi Lo 96
Home Castile 3
Horse Oil Harness 340
Hots Springs Bath 3
Hy-Lo 96

Ideal Bouquet 3
Ideal Family 3
Idyllwild 54
I-Lika-U 286
Ilo Ilo 340
Imperial Crown 3
Iroquois Maiden 115

Jack & Jill 340
Jack Pot 340
Japanese Bath 3
Jerone Bouquet 3
Jewel 2
Jus de Framboise 3

Kaska Bouquet 346
Kazan 343
Kimola, Bell Mg. Co., St. Louis, Mo.
King Solomon's Rock Oil S. Mnross Jenkins, N. Y.

Lakeside (Scouring) 2
La Mariposa 54
Lamsuet 3
Lasco Napthol 54
Last Long 286.
La Virtho, John S. Nichols, New York.
Le Fameux 16
Le Fameux Rose de Seville 16
Le Fameux Violette de Sevill 16
Le Fameux Peau d'Espagne 16
Le Fameux Jockey Club 16
Lemola Toilet, Lemola Soap Co., Los Angeles, Cal.
Lemolive 54
Lemonine, E. H. Kraut, Cincinnati.
Lettnce Cream 3
Libertys London Transparent 3
Liberty's Quartette 3
Liberty's Genuine Bouquet 3
Limberine, E. A. Warren, St. Paul, Minn.
Lion 2
Lisette 3
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Lotus Glycerine 3

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Madeira Almond Cream 16
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kina Skin 346
Maxine Elliott 337
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Mexicano 54
Michigan Family 2
Mildred 337
Millens Cream 3
Milleus Toilet 3
Millens Antiseptic 3
Millens Tar 3
Miners Tar 3
Milk Bath 3
Monroe 3
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Mox-Nix 340

Naphtha Toilet 340
Naphthal 340
Napthol 340
Naptholive 340
Naptha Washing Powder—Hunt Mfg. Co., Cincinnati, Ohio.
Natnral Gas 340
Next-To. Phoenix Chem'l Co. New York.
Nolabor 340
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Noxlabor 340
Noxwork 340
No. 81 White Rose Glycerine 3
No. 3725 White Rose Glycerine 3
No Name 3

Old English Brown Windsor 346
Old English Blue 3
Old Linen 3
Old Time Tar 3
Olive Bath 3
Orinoco 337
Orris Unscented 337
Otis Lightning, C. H. Waterhouse, Essex, Conn.
Our Baby's Bath 3
Our Own 3
Our Special 3
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Palmo 340
Palm Oil S. Powder 340
Palm Soap Flour 340
Parisian Toilet 54
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" Violet 298
" Pink 298
" Lily 298
Peace 340
Peach Blue 340
Peerless Country Club 337
Peerless Forest Violet 337
Peerless Lily of the Valley 337
Peerless New Mown Hay 337
Pen Yen 340
Perfecto 121
Plantol Lever Bros., Limited Port Sunlight, England.
Poncine Erasive 3
Pony Up 340
Popular Blossom 3
Premium, Davenport (Iowa) Soap Co.
Premium W. Powder, Davenport (Iowa) Soap Co.
Preventionette, Willard Chemical Co., Malden, Mass.
Pure Large Oval 3

Queen Complexion 3
Quick and Easy 56

Radiant Violet 3
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Reve d'Amour 3
Rex Cremo 340
Rex Family 340
Rex Liquid Soap 340
Rexolene 340
Rexolive 340
Rockford Scouring 2
Romola 3
Rose d'Or 3
Rose Glycerine 3
Rose Immortelle
Royal Lily 16
Rubbo, Lever Bros., Limited, England.

Safeguard Carbolc 53
Samson's Transparent Tar 3
Sandalwood 3
Sani-Tari Skin, Citizens Wholesale Supply Co., Columbus, O.
Santa Rex Castile 2
Sauer's Complexion 3
Savon White Rose 3
" Jockey club 3
" Violete de Parme 3
" Hyacinth 3
Savon Carnation 337
Savon Heliotrope 337
Savon Lilac 337
Savon Queen Regent 337
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Savon Rose Marechal Nicl 337
Savoy Alpine Violet 337
Savoy Carnation 337
Savoy Jockey Club 337
Savoy Primrose 337
Sayf Syde, Sayf-Syde Soap Co., Cincinnati.
Sentinel 340
Sentry 340
Snow Violet 3
Solos Laundry, Nelson Mfg. Co., Iowa City, Iowa.
Sorosis 340
Stainoff, D. M. Steward Chattanooga.
Stainilgo, Kendall-Davis Co., Boston, Mass.
Star Mottled 2
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Success Scouring Sand Soap Tacony Soap Co., Phil'a
Superior Transparent Glycerine 3
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Vinola Cream 3
Violette Grandfleur 334
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Wego 96
Wendela 3
Whale 3
White Fairy 2
White Pine Castile 344
White Rose Glycerine 3
White Rose Honey 3
White Saxony 3
White Wonder 346
Windsor 2
Wisner 29
Witch Hazel Bath 3
Witch Hazel Bouquet 3
Witch Hazel Shaving 3
World's Fair 2
World's Work 53

Yellow Dog 340
Yellow Palm 340
Yellow Rose 3

Zingarella 3
Zo-Zo White Tar 3
Zanette 3

THE MILWAUKEE BLANK BOOK MANUFACTURING COMPANY.



WE MAKE

BLANK BOOKS,
MEMORANDUM BOOKS,
STOCK SHIPPERS' RECORDS,
VEST POCKET DIARIES,
CARD CASES,
COIN PURSES,
MATCH CASES,
CURRENCY CASES,
AND
ENVELOPES.







218 and 220 THIRD STREET,

MILWAUKEE, WIS.

Say you saw the Ad. IN THIS PAPER

THE PREPARATION OF

Caustic Lye

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STRUNZ PATENT LYE APPARATUS AND CONVERTING KETTLES

reduces the process to a very simple and profitable operation. The expense for labor, fuel, and lime being less than by any other process now available, for the following reasons:

The entire process is completed in a single operation.

No Driving Machinery. No Vacuum Pumps.

No Air Pumps to operate by my method.

F. B. STRUNZ,

708-716 BINGHAM ST., PITTSBURGH, PA.



Advertisements under this head will be inserted at the following rates, *strictly payable with the order in every case :*

SITUATION WANTED : $1.00 the first time, and 50 cents for each subsequent insertion.

HELP WANTED : $2.00 the first time, and $1.00 for each subsequent insertion.

FACTORIES AND MACHINERY FOR SALE OR WANTED: $2.00 the first time, and $1.00 for each subsequent insertion.

These rates are for advs. up to five lines in length; additional lines more in proportion.

In answering any of these advertisements never send original documents, testimonials, etc., especially when the advertisers' identity is not disclosed.

Don't waste time asking us for the names of parties advertising in this column without giving their address, as they will not be revealed.

POSITION WANTED.

A chemist who for many years has been making all and every kind of soaps and perfumes, as well as refiued, bleached and pressed all kinds of fats and oils, and has been doing all chemical work pertaining thereto, wishes to make a chauge. Address: C. X., care of American Soap Journal, Milwaukee, Wis.

Wanted: Position, as Soap Chemist or Soap Maker, with a firm that knows how to appreciate **Real Worth**. Can begin work in 30 days notice, aud can take full charge of plant. Aa a 1, references. Address: "D. W." care of American Soap Journal, Milwaukee. Wis.

Situation Wanted: Analytical and Technical Chemist, Perfumer and Manufacturer of Houshold Preparations on large scale, Glycerine recovery from Spent Lye, Twitchell or Autoclave Process, Oils, Fats, Fertilizer aud Tankage Analysis a Specialty, is open for engagement. Am a graduate of German University. Good References. Address: "Technic" care of this paper.

Position Wanted: By first class oil and soap chemist, expert in refining cottonseed oils and mauufacture of all kinds of soaps. Would like to correspond with parties who are looking for such a man. Am ready to make change July 1st; have been in the business over 30 years, am in good health and strictly sober, would take interest in suitable concern. A good healthy location preferred. Very best of references. Address: W. F. N. care of American Soap Journal.

Situation Wanted: By an experienced soapmaker and superintendent now in sole charge of a large plant. At liberty after May 1st. Would like to communicate with those wanting a high-class man.

Up to date in Laundry, Toilet and Textile goods. No charge unless satisfactory. References: past and present employers. Address: SHAVING SOAP, care of American Soap Journal, Milwaukee, Wis.

PARTNER WANTED.

Partner Wanted: Practical Soap Man, Salesman or Superintendent, may secure interest in factory in fine location with good business. Investment required, $5,000 to $10,000. Full information given to parties meaning business. Address: General Finance Company, Davenport, Iowa.

SOAPMAKER WANTED.

"Soap Maker wanted, must possess good experience of best quality Toilet, Shaving and Household Soaps. good position for suitable man. Box 30, care of American Soap Journal."

Wauted:—A scientific soapmaker, competent to take entire charge of manufacture of a cold boiled laundry soap. New factory. Give references, wages and when could come. Address: MANUFACTURER, care of American Soap Journal, Milwaukee, Wis.

FOR SALE.

For Sale at a Bargain two high pressure copper digesters in good condition, 4 ft. in diameter and 18 ft. long. Apply to The Will & Baumer Co., Syracuse, N. Y.

Soap Factory For Sale: Situated in the city of Reading, Pa. the only soap factory in the city, with a populatiou of 100,000, a large Railroad Center, large mauufacturing interests. The factory is a 3 story brick, 60 ft. front by 40 ft. deep; lot 110 on which is erected an iron stable for 3 horses. Plenty of raw material to draw from. Further particulars given on application to F. K. Miller, 1438 Perkiomen Ave., Reading, Penusylvauia.

For Sale or Rent: Soap Factory in eastern Pennsylvauia; is in first-class condition and fully equipped, including printing plant and everything needed in conducting the business, has capacity of about 300 cases laundry per week.

This is a good opportunity for any one starting in the business, for branch or change of locatiou. Will sell cheap for cash, if sold at once, or give liberal terms. Address: E. V. care of American Soap Journal.

HARD-WOOD BARRELS BOUGHT.

We buy empty hard-wood barrels of any description. KRELL BROTHERS, 1612 Cherry Street, Toledo, Ohio.

SOAP MAKING TAUGHT

in person or by mail, in all its branches. Address: TECHNICAL, care of American Soap Journal, Milwaukee, Wis.

The American Soap Journal & Manufacturing Chemist.

A MONTHLY JOURNAL OF THE MANUFACTURING CHEMICAL INDUSTRIES.

DR. HENRY GATHMANN, PUBLISHER. 2707 North Ave , Milwaukee.

MILWAUKEE, WIS., May 1, 1904.

VOL. XIV. No. 9.

PATENT OFFICE. 1904

THE

AMERICAN SOAP JOURNAL

AND

MANUFACTURING CHEMIST.

SUBSCRIPTION:

UNITED STATES, MEXICO, and CANADA, $2.00 a year
FOREIGN COUNTRIES in the Postal Union 2.50 "

PAYABLE IN ADVANCE.

ADVERTISING RATES IN REGULAR ISSUE:

	1 MONTH.	3 MONTHS.	6 MONTHS.	12 MONTHS.
ONE PAGE.....	$30 00	$75 00	$135 00	$250 00
HALF "	18 00	40 00	75 00	135 00
QUARTER "	10 00	24 00	40 00	75 00
EIGHTH "	6 00	15 00	24 00	40 00

SPACE ON COVER DOUBLE RATES.

For Rates and other Information concerning small advertisements of **WANTED** and **FOR SALE**, see Announcement at the head of that page.

OFFICE OF PUBLICATION:

2707 NORTH AVENUE, MILWAUKEE, WIS., U. S. A.

The AMERICAN SOAP JOURNAL AND MANUFACTURING CHEMIST is devoted to the interests of all manufacturing industries of a chemical character, and is an absolutely independent publication. It is the only newspaper of its kind in America and has also a large foreign circulation.

For Subscription and Advertising rates see above.

Communications on industrial subjects, news items, and any information suitable for printing in these columns, are solicited and will have due attention.

Readers in search of machinery, supplies etc., not advertised in these columns, are invited to write us and we shall endeavor to supply the information.

Address all communications to

DR. HENRY GATHMANN, Publisher,
2707 NORTH AVENUE,
MILWAUKEE, WIS., U. S. A.

On another page we publish the letter of a correspondent who desires to sell out trade-mark, formula, etc., of a once well-advertised soap; and he wants us to find the buyer, "for a commission."

As we accept no such commission under any circumstances, we print the letter without charge, and take this opportunity of repeating that we conduct no employment agency, real estate agency, or general commission house.

We publish a newspaper and fill orders for subscriptions and advertising; we also deal in books concerning the trade, and occasionally we do a favor to soap manufacturers when there is an opportunity to do so. That is all.

Having asked us from time to time the name of some chemist prepared to execute tests, analyses, etc., along soap lines, our readers will be interested in the advertisements in this paper of two such laboratories. While about it, we recommend all our other advertisements to your attention as well.

Last month we heard (and so informed our readers) that the Packer Tar Soap Co., of Mystic, Conn., contemplated the erection of a $30,000 soap factory in Stonington, Conn.

This month we have the pleasure of repeating another report that the Packer Tar Soap Co., of Mystic, Conn., will build a new $30,0000 soap factory in East Mystic, Conn.

In the meantime we read in the National Provisioner that the Packer Tar Soap Co., of Mystic, Conn., will erect a factory at Willimantic, Conn., at a cost of $30,000.

We can't say whether it is to be a peripatetic factory, or whether the factory is to stand with one corner in each of these towns, or whether there is to be a chain of $30,000 factories to be erected, or whether there is something altogther "Mystic"—al to happen.

Perhaps the real explanation is that Connecticut papers have contracted a chronic eruption about the Packer Tar Soap Co.'s building operations. Some years ago when the firm built a barn or something, we don't recall which, the papers for miles and miles around the said barn or something, went on about like this:

"The Packer Tar Soap Co. contemplates building a barn." (A few days later): "The Packer Tar Soap

Co. has applied for a building permit to erect a barn." (A few days later): "The Packer Tar Soap Co. has been given a building permit to erect a barn." (A few days later.: "The Packer Tar Soap Co. have accepted Architect Jones' plan for a barn." (A few days later): "The Packer T ar Soap Co. have placed the contract for bricks to be used in their new barn." (A few days later): "The first boat-load of bricks for the Packer Tar Soap Co.'s new barn has arrived." And again, and again, ever and anon a few days later, one could read throughout Connecticut how the brick work was started, how it went on, how it as nearly finished, how it was quite finished and ready for the shingles, how the shingles were contracted for, and how they arrived, and how they were put on. And when that barn was done at last, all Connecticut breathed a sigh of relief and hoped it might be big enough never to require an addition.

The prospect of a $30,000 soap factory to be born under such conditions lies heavily on our journalistic mind.

In a foreign exchange (an English drug paper), we notice an advertisement which affords "food for reflection." It is an advertisement of a wholesale druggist of London who, sandwiched in between an effervescing saline, castor oil, quinine, coca wine, foods and tonics, gives up *half* of his advertising space to—toilet soaps.

This *half* of his advertising space consists of two full pages, and (but for the fact that the advertisement consists entirely of "half-tones" printed in blue ink which do not admit of reproduction), we should present a copy here, as an object lesson. As it is, we must be content to reprint the few lines which caught our attention, and to describe the rest.

The two-page advertisement consists chiefly of pretty illustrations of boxes and cakes of soap, leaving space for only a few lines of print. In these few lines the retail druggists are given notice that they are offered:

a) Toilet soaps in fancy boxes, lithographed in colors and bearing customers' name and address (in 1 gross lots).

b) Samples of soap wrappers and boxes on application.

c) High-class toilet soaps for introduction as a *druggist's own proprietary.*

d) Prices of tablets (cakes) 18 to 30 shillings per gross; wrappers one to one and a half shillings per gross; boxes one to two shillings per dozen.

e) Beautifully illustrated price list, in colors, on request.

* * *

Here comes the opportunity for reflection. It is a wholesale druggist (not a soap manufacturer) who at the expense of half of his advertising space pushes toilet soaps; he offers fancy boxes, lithographed in colors, bearing customers' name to make the contents appear as the druggist's own proprietary; samples of wrapper and boxes on application; beautifully illustrated price lists in colors. It will be seen that samples of the *soap* are not thought worth while. And the boxes cost from 12 to 24 shillings a gross, while the soap is 18 to 30 shillings a gross.

* * *

Think of it.

"Soaps of the Vegetable Kingdom" is the title of an article recently written by Dr. N. Kruskal for a German trade paper, and appearing in translation in the *Pharmaceutical Era* of New York for March 31 and April 7. We reprint herewith the introductory remarks of the article, referring those especially interested to the paper named:

"There are now commonly used for washing silk, wool and kindred products instead of soap, artificially prepared, others which are furnished us completely by nature and belong entirely to the vegetable kingdom. In many countries these products of nature are an important article of commeree, some such as Quillaja bark, being exclusively used in our own households.

"The plants thus used all contain a glucoside belonging to the saponine group. For the chemical composition and formula of these substances I refer to my article published in "Arbeiten des Pharmacologischen Inst. zu Dorpat, Vol. VI." There I also point out the fact that all saponine substances form homologous groups."

"Many soap substituting plans have as yet not been examined as to their chemical composition, but all exhibit the same physical properties: they lather with water, have a peculiar acrid taste, dissolve red blood corpuscles, and hold finely divided substances in suspension.

"The glucoside saponine was formerly, according to the plant in which it was found, named differently, as for instance: Monesine, senegine, quillajine, struthine, githagine, nigelline, etc. These names having at first distinct meanings, as it was supposed that the saponine substances, when obtained from various plants were not identical. But this view was abandoned in course of time, and it is now assumed that the acrid substances of senega root and of the seeds of Agrostemma githago are identical with saponine of quillaja bark, and with the saponine of the white soap root, as prepared by Bley and later by Bussy. Already in the year 1854 Boley held that these saponine substances were identical and twenty years later Christophson insisted the same for the saponine substances contained in Saponaria offic., Gypsophyla struthium, Quillaja saponaira and Agrostemma githago. In 1892 v. Schulz proved the identity of the above named saponine substances with those found in

the different sarsaparilla roots and my investigations on saponines also proved the same in regard to those found in Sapindus saponaria and Helonias dioica. Later different authors claim the same for the saponine substances in other plants.

"The identity of the different saponine substances having been proved, the cheaper quillaja bark was suggested as a substitute for the root of saponaria rubra. Kobert even recommending quillaja bark as a substitute for the expensive root of senega as used medicinally. Clicinal investigations having given good results.

"In the following list I have endeavored to name the different plants in which a saponine substance has been found. Many of these are used as soaps."

(Here follows a list of 229 plants.)

From Our Correspondents.

WILLING TO SELL OUT.

Philadelphia, April 7, 1904.

Dr. Henry Gathmann.

Dear Sir: Wishing to retire from active business, the trade-mark, formulas, etc., of the —— —— soap is for sale.

While over $400,000 has been spent in advertising this soap, it will be sold at a bargain, for while it is known in every hamlet of the United States (and favorably known), the sale of the soap has been allowed to run down by the withdrawal of all advertising and soliciting.

In order to effect a quick sale, I would take $3,000 in cash, and a royalty of 10 cents a box,(the royalty to cease at the end of 10 years).

My object in writing to you is to ask if you would undertake the sale, for a commission, if successful, as that would seem a much better plan than to advertise it.

Trusting to be favored with a reply,

I am very truly yours.

A FILLING MIXTURE.

Dr. H. Gathmann.

Dear Sir: * * * Referring to our recent correspondence and your inquiry, would say that the filler which we at last adopted is composed as follows: Sugar 2 parts, water 4 parts, silicate of soda 6 parts, and starch stirred in lye 7° B. 2 parts. The silicate being 30° B. This cost us endless experiences, but it gives us good satisfaction, and you are welcome to publish it if you like, but without our name and address.

Truly yours, —— ——

(The above formula will not suit every case, any more than will any other formula for a filler; but in the circumstances under which our correspondents work, it has proven superior to anything else. It is given to our readers by our correspondents in graceful acknowledgment of some useful hints occasionally found in our pages.—Editor A. S. J.)

GONE OUT OF BUSINESS.

Oswego, N. Y., April 4, 1904.

Dr. Henry Gathmann.

Dear Sir: I have mailed you a copy of the SOAP JOURNAL for which you advertised; you need not send any pay for same. Kindly say in your next issue that I have gone out of the soap business. Yours truly,

A. A. WELLINGTON.

SOAP PLANT WANTED.

London, Ont., April 15, 1904.

Dr. Henry Gathmann.

Dear Sir: I am about to erect a soap plant here and would be pleased if you can give me information as to where I can buy crutchers, frames, presses and cutting table, also soap kettles. Or would be pleased if you can put me in communication with parties having them. Yours truly, —— ——

(A copy of this paper, which we sent to our correspondent, will show him certainly the firms making and advertising the standard machinery and supplies.—Editor A. S. J.)

"HILARIOUS SOAP MANUFACTURERS" AND "SOAPS THAT THINK."

Chicago, April 7, 1904.

Dr. Henry Gathmann.

Dear Sir: Remembering the effect a former patent of mine had on some colleagues (see "May We Laugh" in a previous number of this JOURNAL), and realizing that an occasional hearty laugh is good for the health, I herewith forward you, dear Dr. Gathmann, copy of a patent recently obtained by the writer; also a sketch entitled "Soaps That Think." Will leave it to your readers to choose between "Soapmakers Who Laugh" and "Soaps That Think." As the soap-using public as a rule does not think when selecting soaps, I thought it a good thing to let the soaps I make do some "thinking." Later on, perhaps, I may feel like saying something about *how* the different soaps "think." I remain, etc.

GEO. A. SCHMIDT.

[First Enclosure.]

Be it known that I, George A. Schmidt, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Medicated Soaps and Methods of Preparing Same; and I do hereby declare the following to be a full, clear, and exact description

of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to a novel medicated soap and method of making same, the object being to produce medicated soap in which the medicaments are kept out of intimate contact with, and therefore out of the sphere of, chemical action of soap or its constituent substances.

My invention relates more particularly to that class of toilet soap known as "gritty"—that is, soap with which powdered or granulated pumice-stone, infusorial earth, fossil diatomes, tripoli, etc., are mixed, such combinations being better adapted to purify the furrows and recesses of the skin than ordinary soaps.

It is well known by scientists that a number of medicaments when mixed with soaps are subjected to chemical action which causes deterioration and frequently complete chemical transformation of such medicaments, thereby rendering them powerless to effect that for which they are intended. Furthermore, such medicaments are not brought into such intimate contact with the skin as to penetrate sufficiently, so that they are practically powerless to act. To overcome these difficulties, I prepare medicated soap in the following manner:

In order to maintain the effectiveness of the medicaments, I introduce the latter into the pores of the gritty material. This I effect by granulating material—such as pumice-stone, infusorial earth, fossil diatomes, tripoli, or any other suitable porous material—and thoroughly calcine the same by means of a high degree of heat. I then introduce such powdered granulated material into a vessel, which may be sealed hermetically, wherein the same is thoroughly mixed with solutions or extracts or antiseptics, deodorants, etc., and then subjected to the action of air at a pressure preferably not less than fifty pounds, which serves to force such medicaments into the pores of said granules. Such pressure is maintained, preferably, for several hours and the entire mass stirred and agitated during this time to effect the best results. Said gritty substance is then dried and is now ready to be added to the soap. This may be done by mixing such gritty material directly with the soap while the latter is liquid, so that each granule becomes enveloped with a film of such soap, which by reason of its more viscous state does not readily penetrate the pores of said gritty material, and therefore cannot chemically affect the medicaments contained in such pores to any material extent, so that the latter and said soap are maintained out of intimate contact, so that their relative action on the skin is practically independent.

When using the soap, the added water while dissolving the soap also dissolves such medicaments out of the pores of the gritty granules; but the latter action is necessarily gradual and occurs during the time that such granules are rolled over the skin, and their sharp points penetrate all fissures and pores, thereby introducing such medicaments directly to the points at which they are most effective and before any chemical transformation or deterioration is effected. In fact, the chemical changes brought about when the soap, medicaments contained in the gritty material, and water meet in the minute recesses of the skin, where germs, microbes, and skin secretives accumulate, have the effect of detaching these to surround them with soapy solutions, and the added mechanical action of the gritty material forces them to the surface, whence they are easily removed. In immersing such gritty material entirely in the soap, so as to surround each granule entirely with a film thereof, a chemical transformation or deterioration of the medicaments on the surfaces of said granules is effected, and thus a part of the benefit thereof is lost, and to this end I prefer to prepare the soap for use in the following manner:

I coat sheets of stiff, heavy paper, cardboard, or fabric of suitable kinds on one or both sides with the soap while the latter is liquid and hot, and before said soap dries or coagulates I spread the medicated granules over the film of soap, so that they adhere thereto and are retained upon the sheets thereby. In this manner only a small portion of the area of each granule is brought into direct contact with the soap, so that the resulting deterioration or chemical transformation is proportionately reduced and effectiveness of the medicaments preserved in a correspondingly greater degree. The said sheets are then put up in packages in any suitable manner and are necessarily far more sanitary, inasmuch as each person uses a sheet, which is thrown away, so that the next person does not come in contact with soap previously used by another and all danger of infection from this source is avoided. Soap thus prepared retains its effectiveness indefinitely and exceeds all medicated soaps prepared in the usual manner in effectiveness to a great degree.

I claim as my invention:

1. The herein-described method of preparing medicated soap, which consists in mixing calcined granulated porous gritty material with liquefied medicaments, subjecting such mixtures to the action of air under pressure in a sealed vessel, subsequently drying said gritty material, and mixing same with soap in liquid state.

2. The herein-described method of preparing medicated soap, which consists in mixing calcined granulated porous gritty material with liquefied medicaments, subjecting such mixture to the action of air under pressure in a sealed vessel, subsequently drying said gritty material and mixing same with soap in liquid state.

3. The herein-described method of preparing medicated soap which consists in mixing calcined granulated porous gritty material with liquefied medicaments subjecting such mixture to the action of air under pressure in a sealed vessel, subsequently drying said gritty material, coating sheets of suitable material with soap in liquid form, and covering said coated surface with said medicated gritty material before said soap has coagulated.

4. The herein-described method of preparing medicated soap, which consists in mixing calcined granulated porous gritty material with liquefied medicaments, subjecting such mixture to the action of air under pressure in a sealed vessel, subsequently drying said gritty material, coating sheets of suitable material with soap in liquid form, and covering the coated surface with said medicated gritty material before said soap has coagulated.

5. As a new article of manufacture, medicated toilet soap consisting of soap having mixed therewith granulated porous gritty material, previously medicated, said gritty material being adapted to retain the medicaments out of the sphere of chemical action of the soap.

6. As a new article of manufacture, sheets of suitable material coated with soap, and having the coated surface covered with previously-medicated granulated porous gritty material.

[Second Enclosure.]

"SOAPS THAT THINK."

(Copyright, 1904, Geo. A. Schmidt, Chicago.)

"Dirt Killers," "Filth Destroyers," "Germ Annihilators," and many other "Radical Eradicators of the Undesirable," are well known to, and the power of these destructive agents is not doubted by the housewife, who finds daily proof thereof in the fabrics, which testify how little the average soap and similar purifying preparations *discriminate* between the useful and the opposite.

Damage done to clothes and "dead" surfaces are insignificant in comparison to the injury wrought to the living human skin. Were the extent of the deleterious effects of many soaps and costly toilet preparations fully realized, the public would surely use more judgment in selecting such goods. Sallow and chapped skin and bad complexions are largely due to the infiltration into the depths of the epidermis of poisonous or strongly alkaline, corrosive "cosmetics" and soaps. Especially the preparations applied in liquid form very frequently overstep that delicate boundary line which divides the dead cuticle, with its undesirable living inhabitants, the germs and micro-organisms, from the useful, *tissue-building cells;* the latter delicate creatures often succumb quicker to the noxious influences of alcoholic extracts and poisonous solutions than do the former. Wrinkles, freckled skin, and deranged, impaired skin secretions, with many evil consequences, are the result of thoughtless skin treatment. The damage done is often so gradual that the better class of toilet preparations may be used for years before the deleterious effects become apparent and, because the cosmetic has been used so long, the unsatisfactory state of the skin is attributed to quite different causes.

It is an open question whether the manufacturers of unwholesome toilet preparations are to carry the burden of blame alone. To us it seems as if purchasers were even more to blame when they demand low-priced goods. Take for an example "cold cream." To combine the best oils, gums and waxes demands much care and judgment in selecting the raw materials and to mix them properly —the addition of a little borax facilitates matters greatly and yields quicker, a *nicer* product, of superior *appearance,* besides, quite an amount of water may be incorporated if borax is added—because the majority of purchasers judge by appearance, and because the borax asserts its deleterious influence very slowly, the makers and dealers in "old-fashioned" cold cream are at a disadvantage and gradually abandon the old and tried formula, all the more readily as borax is mild and efficient as a cleaner and there is no objection to its use, *if it is completely rinsed out of the cuticle after it has done its work of dissolving a certain part of the skin accumulation.*

It is the neglect of these distinctions which causes so much injury to delicate skin.

As the busy housewife and business man cannot possibly spare the time to go into all the details of rational skin and scalp culture, he should substitute for the ordinary cosmetic and toilet soaps the kind of *"soaps that think."* That kind has printed on the wrappers around them, the boxes and other accompanying matter, the ideas which govern the use of each particular kind of Ascage or "Soaps That Think" You should reason thus:

Kind Nature has always been our most reliable teacher and has placed an example close by, from which we can learn how to proceed. The mucous membranes which line the internal cavities of our bodies, the interior of our mouth, nose, etc., get rid of the dust, germs, micro-organisms, etc., by secreting a fluid, thin in consistency when undesirable matter is easily removed, but becoming thicker and more abundant when the danger from those minutest, innumerable foes to mankind, the bacilli, etc., increases; the mucus expectorated is nothing else but the product of the efforts of Nature to rid itself of the undesirable and injurious.

"Ascage," or "Soaps That Think" work on the same principles. Properly applied to the skin, they loosen,

envelope, lift-up and out the undesirable. Some of them are used in liquid, others in semi-solid, cake or granular form. Taking into consideration the habits of the user, the difference in the water and other means at his or her command, the nature of the secretions of the skin and the accumulations of dust, etc., it will be understood why quite a variety of such promoters of health, vigor, beauty, comfort and happiness, are needed by different individuals.

As you, dear reader, select the workmen to do a particular job, according to his ability and reputation, don't you think you ought to do the same thing with the preparation which comes nearest to you, gets, or ought to get, closer acquainted with you than even the water in your bath tub (because water alone cannot penetrate into the depths of your skin whence waste matter should be removed, if you want sterilized, that is, pure healthy skin); don't you think you should patronize a *conscientious, intelligent* dealer in "Soaps That Think" rather than experiment with the goods sold by the inexperienced and unscrupulous?

You cannot afford to have it appear as if "Soaps That Think" do so more logically than you do yourself, assist them in so far at least that you avoid the ordinary trash and substitute therefor soaps which are recommended and for sale by *experienced, honorable, intelligent* dealers.

LOOKING FOR YOU?

Leeds, April 19th, 1904.

Publisher of American Soap Journal,

Dear Sir: We have been favoured by a receipt of the copy of your Journal. We have a desire to represent one of the best American soap firms for Milling and Manufacturing soaps and we should be glad if you could give us the address or put us into touch with firms that can supply nearly first-class goods. We are an old established firm in the centre of the Yorkshire Woollen Manufacturing Districts, and no doubt could influence a large amount of business. Thanking you in antieipation.

Yours truly,

WILLIAM LYND & CO. LIMITED.

A. H. Watson, Director.

Soap and the Beard.

The average man, if he ever considered the question at all, if asked why soap was rubbed into the beard before shaving, would probably reply "to soften it." Some scientist has recently examined microscopically an ordinary dry hair from an unshaven chin and on another duly saponified *secundum artem* by our ancient confrere, the barber. The result of this treatment is apparently the conversion of the hair into a firm elastic tube containing a quantity of drying soap, the whole affording the necessary resistance to a cutting edge. Soap does not soften the beard, therefore, but partly stiffens it. Readers of *The Talisman* will remember how Saladin surpassed Richard I's performance with a two-handed sword on a mace, by severing with his Damascus scimitar a veil floating in the air. In the day of Damascus blades, doubtless, soap was unnecessary to the barbers of Bagdad, and assumed its present prominence in our scheme of civilization only when some oriental Yankee threw a panic into the steel industry by the invention of potmetal.—*N. Y. Medical Journal.*

Honor Between Principals and Employees.

(From *Oil and Col. Journal,* London, England.)

If, as the proverb tells us, there is "honor among thieves," there surely should be a very nice sense of honor between business people, and more especially between employees and their employers. Happily, that honorable feeling is manifested, as a rule, or business life would be one of incessant animosity. In the very great majority of cases, so long as business relations exist between employers and employed (in any capacity) good feeling prevails. The employer freely trusts his servant with the private details of his business, and very often with special methods of manufacture employed by him, and not known to his competitors. The employee respects that confidence, and guards his principal's trade secrets as jealously as if they were his own. In the course of years the confidential employee naturally desires to be something more than a servant, and goes into business on his own account. This is the time when friction first occurs in his relations with his former principals, and when his sense of honor is put to the test.

The position of an employee leaving a firm with whom he has been confidentially associated for many years is a critical one. It must, however, be considered from an all-round point of view. The employee commencing business for himself must naturally, almost necessarily, adopt the business with which he has been familiar, and in which he has acquired general experience while in the service of the principals he is now leaving. His former employers may think it rather hard that the trade experience their servant has gained during his twenty years in their service should now be used in competition with them in the markets they supply, whether as manufacturers or distributors. But within certain limits this is inevitable, and there is nothing to complain of in it. The demands of the public are in-

creasing every year with the increase of population, and it is reasonable that the number of those who seek to supply those demands should increase also. There is nothing dishonorable in a former employe entered into honest competition with his late employer—and this is just the point where the "honor" comes in. The employee must himself decide what in his case would be "honest" competition. There will probably be many little business secrets which he has learned, and he is hardly entitled to use *them* on his own behalf. There may be a process of production introduced by his late principal, and not generally known in the trade. Although it may not be patented, and though it might be open to a stranger to make use of it, if he could obtain particulars of it, it would not be honorable in the former employee to utilize it. A case has just been heard in the courts in which a former employee who had been liberally treated by his employers, on leaving their service, sought to introduce two competitive manufacturers on to the works after business hours. The works manager saw him moving stealthily round the premises, and looking through the windows, at a time when no one was supposed to be on the premises, and two strangers, seen to be standing outside, were afterwards ascertained to be two manufacturers brought there by the former employee. The works manager tackled the latter, and asked him what he was doing there. His replies were not satisfactory, and an action was brought against him, and damages claimed. They had, at great expense, introduced new plant; they had adapted the latest process of manufacture, and had recently brought out several lines of specialties. They naturally did not care for competitors to be prying into these things even through a window, and they claimed damages. The judge explained that though perhaps no real injury had been done, damages could be given if there had been a moral injury to the plaintiffs. The jury found that the object of defendant's visit was to obtain information about the methods of business, and awarded the plaintiffs £25 damages. It is not honorable for an employee either to make use of his former employer's business secrets himself or to communicate them to others.

As a contrast to this, we may mention that only last week we had an interview with a gentleman who is pursuing the same class of business as his former principals, whom he left a year or two ago. In answer to a remark of ours with reference to a particular line, he said, "Yes, of course I supply it, because my customers ask for it, but I do not press it, and I do not advertise it, because it has always been a leading line with my former principals, and I do not wish to interfere with their trade in it." This is the honorable sentiment which should animate employers and employed alike.

Adulterated Soda Crystals.

Before the Lord Mayor of London, according to the Oil and Colorman's Journal, from which the following is a condensed report, on January 8, a complaint was heard at the instance of Messrs. Brunner, Mond & Co. against Messrs. Burgoyne & Co., who, it was alleged, had contravened the Merchandise Marks Act in that they had sold quantities of soda crystals of a false description, and with a mark resembling that of the complainants' firm. Mr. D. M. Kerly appeared for the complainants; and Mr. A. N. Langridge appeared for the respondents. The Clerk having read the information, asked if the defendants elected that this case should be dealt with summarily or by indictment. Mr. Langridge replied that he preferred to have it dealt with summarily, and that he would plead guilty to the summonses for applying a false description and selling with the false description.

The Clerk said he understood defendants pleaded guilty to the summonses for applying a false trade description and for selling the goods with the false trade description so applied.

Mr. Langridge said that was the case.

The Clerk said this would mean a plea of guilty on six of the summonses out of the twelve issued.

Mr. Kerly, in stating the facts for the prosecution, said this was a case of very considerable importance, because it related to the question whether certain stuffs, which were called soda crystals, but which were not in fact soda crystals, could be honestly sold under that description. His clients, Messrs. Brunner, Mond & Co., the well-known alkali and soda manufacturers, had ascertained that an enormous quantity of this stuff had been imported into this country, and that no doubt it had got into a good many hands; and what took place to-day in this court would be of great value in assisting people who, with honest intentions, might otherwise pass back to the public a quantity of this material. He called the Lord Mayor's attention, first of all, to the Merchandise Marks Act of 1887. By Section 2, it provided that every person who "applies any false trade description," and then, later on, "every person who sells or exposes for, or has in his possession for sale or any purpose of trade or manufacture, any goods, or things, to which any forged trade-mark, or false trade description, is applied, or to which any trade-mark or mark so nearly resembles a trade-mark as to be calculated to deceive, is falsely applied, as the case may be, shall" be liable to a fine not exceeding £20, or on a subsequent conviction to imprisonment, and so on. Then, he should also like to call attention to sub-Section 4, which said: "The court before whom any person is convicted under this section may order any forfeited articles to be destroyed or other-

wise disposed of as the court thinks fit." The goods, in this case, were what were known as soda crystals—that was, the common washing soda of commerce. Soda crystals consisted properly of carbonate of soda with water of crystallisation: but in the preparation of soda crystals, for the convenience of the manufacturer, in order, he believed, to make the crystals less sticky, so that they could be crushed and put into a drying machine more conveniently, a very small percentage, which, with an honest manufacturer never exceeded 2 per cent. —and, in Messrs. Brunner, Mond & Co.'s case, never exceeded 1 per cent.—of sulphate of soda, was added to the crystals. Now, the addition was absolutely useless to the purchaser, because sulphate of soda had no detergent effect. It made the soda useless instead of being effective. Now, a practice had grown up of adulterating the soda crystals—that was to say, the carbonate of soda with another sort of soda—sulphate of soda. There was an obvious advantage in doing this because one cost £4 10s. per ton and the other cost £1 14s. per ton, so that to the fraudulent manufacturer there was an obvious advantage in adulterating these crystals with this other substance. It had been discovered that a number of manufacturers had been putting upon the market what was described in one of the books, to which he had had his attention called, as a sulphite of soda made up in crystal form. That was a thing known as Glauber's salt, which was not a soda at all. They crystallised this stuff so as to have a preparation of the sulphate instead of the carbonate—that was to say, crystallised with water—and dealt with it in the same way as the pure crystals. In some cases they mixed these Glauber's salts and the soda crystals, and passed them off as soda crystals. In other cases the fraud was more cleverly performed, because it was possible, by dissolving in the liquor the sulphate of soda—which was the saltcake of commerce —and the soda ash, to get a product which it was difficult to tell from the crystals of soda. It was possible to have a single crystal which contained the adulterant salts, and yet impossible to see it was not the true soda. He had pointed out the advantage to the manufacturer, which was that the one material only cost him a fourth of the real article, and that enabled him, of course, to sell at a considerable reduction to the purchaser. In those cases the crystals were entirely useless. In this case now before the court, Burgoyne & Co., who appeared to be a firm who had recently entered into business, had been sending out to the trade letters, of which the following was an example. This letter was sent to a Mr. Drake, whose name was mentioned in one of the sets of summonses:—"Dear Sir,—We should be pleased to have a trial order from you for our No. 1 quality soda crystals, packed in new, strong 1-cwt. or 2-cwt. bags, clearly and neatly marked B. M. & Co." Now, the only "B. M. & Co." were his clients, Brunner, Mond & Co. "This soda is strong, white, and dry; the crystals are well formed and well broken up, especially to facilitate packing and weighing up in the retail trade. We deliver at 60s. 6 d. per ton." Here was the price for large quantities, and the wholesale price, it would be observed was 62s. a ton. "We deliver at 60s. 6d. per ton, net cash, and guarantee that there is no equal value on the market. The War Office and Admiralty use our soda, and it has passed all their tests satisfactorily"—which is misleading. "All we ask you to do is to take a trial lot, and you will be pleased to do a regular business afterwards." Now, getting an offer of that stuff so described at what was below the market price, Mr. Drake not unnaturally ordered a ton, and he got it. The stuff was sent with the following delivery note:—"Please receive herewith ten bags—2-cwt. bags—soda crystals, marked B. M. C., in good condition, and carriage paid." Then there was a corresponding invoice—£3 0s. 6d. for ten bags soda crystals, 2-cwt. each, and the ten bags were in fact delivered. Nine out of ten of these bags had "B. M. C." marked upon them, and the other, he thought, "B. M. & Co." They were delivered, as he had said, to Mr. Drake, and they were immediately sent on to Brunner, Mond & Co.'s works at Silverton, where they were analysed by Dr. Lamb, who was a well-known chemist himself, and by Mr. Blevins, who was his assistant, but by Mr. Salamon and Mr. Otto Hehner, who were two of the best-known analytical chemists in London. There was no doubt about what the bags contained. Instead of containing 98 or 99 per cent. of carbonate of soda, which was the real soda of commerce, they contained 9 or 10 per cent. Of course, the samples varied in the extent of adulterations, but some contained no less than 91 per cent. of the useless Glauber's salts, and, of course, in the form of crystal. Under those circumstances, Brunner, Mond & Co. had no other course but to bring the matter before the court. He was quite aware there was a plea of guilty, and that therefore it was not necessary for him to call any evidence, but he should like to be allowed to put in the box the chemists—Dr. Lamb, Mr. Salamon, and Mr. Otto Hehner—because, as he had said, there was a great deal of this stuff on the market, and he thought it would be of great advantage to the public and the trade that a definite and authoritative statement of what soda crystals were—what that meant, and what were the limits of anything to be reasonably added—should be publicly made. He did not propose to prove the sales, because he understood that would not be denied.

Mr. Langridge said he would not dispute that.

Mr. Alfred Gordon Salamon then entered the witness-box, and, having been duly sworn, stated, in answer to Mr. Kerly, that he received some samples of so-called

soda crystals from Messrs. Brunner, Mond & Co. for the purpose of analysis.

Mr. Kerly: Give me what, commercially, soda crystals mean.

The Witness: Soda crystals mean carbonate of soda with the necessary amount of water of crystallisation which belongs to it. It is converted into soda crystals, plus a very small proportion of what may be regarded as impurities, so far as cleansing effects are concerned, which impurity is a necessary part of the manufacture of the soda crystals, but which never exceeds 2 per cent. The impurity consists essentially of sulphate of soda, which is technically necessary in the manufacture of the product. It is no value to the purchaser whatever. It has no detergent effect, no cleansing effect, and if used in an exaggerated quantity, it would have a contrary effect, and impair the action of the soap. Shown a sample of the article complained of, and marked "B. M. C.," Witness said that consisted of 95-59 per cent. Glauber's salts and 4-48 per cent. of sodium carbonate crystals.

Mr. Kerly: That is to say, instead of 98 per cent. of sodium carbonate crystals, it had only 4-48 per cent., and, instead of having a small proportion of Glauber's salts, it had got 95-59 per cent.

Witness: It was not a washing soda in any sense of the word. Glauber's salts is, I believe, about 35s. a ton, and I purchased from the Army and Navy Stores, for the purpose of this case, a sample of soda crystals, and I got 7 lb. for 4d., which, of course, works out at a little over £5 per ton.

Mr. Kerly said he had other analytical evidence to submit, but he had no doubt Mr. Salamon's position as an analyst was sufficient to enable him to dispense with calling them.

Mr. Langridge said he did not dispute what Mr. Salamon had told them, except he should like to ask him one or two questions as to the nature of soda crystals, and the appearance of them—whether they had always been as pure as Brunner, Mond & Co. said they were.

Cross-examined by Mr. Langridge: You are aware that the manufacture of soda crystals has been changed by the introduction of the ammonia-soda process?

Witness: The ammonia-soda process has changed it, and the result of the change is that to produce soda crystals a small proportion of impurity has to be added to the mother liquors from which the crystals are made.

You think you get a purer product now?

In the Le Blanc process this sulphate of soda that I have alluded to was present to the extent of not more than 2 per cent. on the finished product.

But was it not subsequently converted into carbonate crystals?

Yes, I have already answered that by saying it was to that extent.

Was it not much more likely in earlier days to find a larger extent of adulteration than 2 per cent.?

It may have been, but the adulteration with a large quantity was well known and recorded. For instance, I have here a copy of the "Chemical News" of 1867, where, under the title of "Mock Scotch Soda Crystals," it says this: "These are properly sulphate of soda. It is very difficult to tell them from Scotch (washing soda of the shop) by the eye alone. They are prepared in the following manner." Then there follows a description of how they are prepared, and it says: "The resulting crystals are large and hard; they are dried in the air for a short time, and then packed in casks.

Mr. Langridge: That is exactly what I am putting to you.

The Witness: That is the mock soda crystals. Then Lunge, who is a great authority on alkali, says: "Some crystals are adulterated with the much cheaper Glauber's salts. It is those consumers—for whom the latter is absolutely worthless—housewives and laundresses—who are most exposed to this fraud." J. H. Swindell's ("Chemical News," XXI., page 227) mentions "that the manufacture of mock Scotch soda crystals was carried on on a large scale, and the products sold as best Scotch soda." That was written about thirty years ago, and this practice was acknowledged as a fraud thirty years ago.

Mr. Langridge: Is not the author in effect saying that the crystal as formed gives no guarantee of purity?

The Witness: That is so in this case, because you cannot detect whether it is a fraud or pure washing soda unless by analysis.

Mr. Langridge: Then it has been a bone of contention?

The Witness: Oh, no; it has opened the chance of fraud, that is all, but it has not been a bone of contention. It has been known that the public should be honestly guarded against fraud to this extent.

Mr. Kerly, addressing the Lord Mayor, said that, although his clients had been content to take the plea of guilty in respect of applying the false trade description and selling with the false trade description, and although there were many questions, such as the letters of Burgoyne & Co., which were also seriously complained of, he did not propose to proceed in respect of the other charges. He would ask his lordship to make an order for the destruction of all the so-called soda which he had described, some four tons, and which was in the possession or under the control of the defendants in this case. It was stuff which had been prepared for the purpose of fraud, and could only be used for the purpose of fraud. The court had power under the Act to order the destruction, and he asked his lordship to give such instructions.

Mr. Langridge said that in this case, which was a test

case by Brunner, Mond & Co., they had unfortunately elected to proceed against a young man who had only been engaged in this trade since the end of May last, and had only dealt with these goods to a very small extent. There were, no doubt, many manufacturers who had been importing these goods and selling them to a very large extent, but in this particular case Mr. Burgoyne had only been engaged in the trade a little less than five months before the summons was issued, and he had only imported a very small quantity of these goods. They were imported from Belgium, and were bought by his clients on the representation of the seller that they contained some 80 to 85 per cent. of carbonate of soda—that was to say, that they would be of somewhat inferior quality to the quality of Brunner, Mond & Co., and that they would contain impurities to the extent of 15 per cent. They were brought over to this country, and sold by Mr. Burgoyne ex ship, and delivered ex ship or ex wharf, so that he had no dealings with them at all, practically, after the sale except to deliver them. Of course, his client having got the goods on that representation was fairly entitled to rely on the fact that he would not be supplied by sellers with an article which had turned out, so unfortunately for him, to be not at all the article which he was buying or which he wished to sell to his customers. No one was more astonished or dismayed in regard to this part of the trade than his client when he heard of the facts, and discovered how he had been imposed upon. Having learned that the crystals, so far as being a substance which might be fairly described as soda crystals, were really sulphate of soda adulterated with a little carbonate of soda, he did not desire to set up any defense. His client had been brought into this position by no fault of his own, and he thought it would be amply sufficient for the court to say that the justice of the case would be met by a very small—a nominal—penalty. He might say that Burgoyne & Co. had ceased to stock goods coming from the manufacturer who had brought them into this trouble, and he did not propose to sell such goods as soda crystals again. He considered that the publicity given to this case would be amply sufficient to achieve the results which his learned friend desired.

The Lord Mayor, in giving his decision, said:—I have of course listened very carefully in this case to the arguments on both sides. The argument of Mr. Langridge is that which I have heard before in this court when imported articles come here, and are found to be not such as represented. The statement by the solicitor or by counsel usually is that they have been sent over here, and the receiver has been ignorant of the contents; but, however, I do not think that these statements are perfectly accurate. I daresay Messrs. Burgoyne, if they had taken the trouble to analyse the material, would have very soon found out that a fraud had been perpetrated upon them. However, as Brunner, Mond & Co. do not press for any damages, I shall impose a penalty of £5 in each case. There are six cases, and that will therefore be £30 in all. In reference to the destruction of the goods, there is a distinction, of course, between this case and the case of food or anything which is likely to endanger health. In this particular case I do not think there is any necessity why these four tons should be destroyed, because the article is one that can be sold. It is an article of merchandise, and therefore I think it will be quite sufficient for the prosecutors, Brunner, Mond & Co., if they accept a statement of the defendants that they will not sell this material as soda crystals, but sell it for some other purpose, therefore I do not make an order for the destruction of this material. The penalty will be £30.

Saponification.

(J. Stewart Remington in Oils, Colors and Dysalteries.)

When fatty oils are heated with water, under a pressure of about 10 atmospheres, or distilled with superheated steam, they are decomposed into fatty acids and glycerol. When a fatty oil is heated to 110° C. with about 10 per cent. of concentrated sulphuric acid, a similar decomposition takes place. On washing the product with hot water, the glycerol and mineral acid are removed, the fatty acids separating as an oily layer on the surface of the liquid. Decomposition also takes place when an oil or fat is treated with an alkali, such as caustic potash, or with a basic salt, such as lime, preferably, in the latter case, under pressure.

In either case a soap is produced (salt of the fatty acids) and glycerine.

These three instances are given in order to show the wide range covered by the term "saponification."

Whenever an "ester" (ether of the fatty acid) is split up into an acid and an alcohol, the change is called "saponification," no matter whether the agent, bringing about the change be water, and acid, or a base.

With the exception of butyrin and valerin, the former occurring in butter fat, and the latter in porpoise oil and whale oil, the esters, which form the proximate constituents of oils and fats, yield up equal amounts of fatty acids on saponification, the amount of glycerine being also within narrow limits.

Roughly speaking, the majority of oils and fats yield, on saponification, from 94 to 96 per cent. of fatty acids, and from 8 to 12 per cent. of glycerine. Oils, such as porpoise and cocoanut, are an exception to the general rule, and yield a larger proportion of glycerine, while rape oil yields a much smaller quantity.

	Products of saponification of 100 parts.	
	Fatty acids.	Glycerol.
Porpoise oil	88.96	26.77
Cocoanut oil	94.04	14.42
Olive oil	95.70	10.40
Rape oil	96.39	8.75
Linseed oil	95.67	10.48
Castor oil	95.92	9.88
Tallow oil	95.73	10.34

As has been previously stated, the saponification of an oil or fat is the number of milligrams of caustic potash (KHO) required to saponify one gram of the oil or fat under examination.

There are two ways of carrying out this determination, either by hot saponification or by cold saponification, the former method being the one most generally in use. The determination of the saponification value of oils and fats is a very important factor in the analysis of these bodies, as it forms a ready means of determining the amount of mineral oil present in compound oils, as mineral oils do not absorb any potash. Therefore, the addition of a mineral oil to an oil of known saponification value can be readily ascertained.

In order to determine the saponification value of an oil, two solutions are required, viz., a semi-normal solution of hydrochloric acid, and a solution of caustic potash in alcohol.

The caustic potash is prepared by dissolving 28 grams of pure caustic potash in about 35 c.c. of water, and pouring this into 500 c.c. of methylated spirit, which has been previously purified by distillation with caustic alkali. It is then well shaken, made up to 1,000 c.c., allowed to stand for twenty-four hours, and then filtered clear.

For the determination, anything from two to five grams of the oil will be found most convenient, and this is weighed into a 4 oz. conical flask, with 25 to 30 c.c. of the alcohol potash solution, and the flask attached to an inverted condenser, the whole being placed on a water-bath, and allowed to boil for thirty minutes. The flask should be shaken and agitated from time to time.

This time will generally be found sufficient for complete saponification to take place.

At the same time start a second flask on a water-bath, containing alcoholic potash only. When this has been heated to boiling point, add 1 c.c. of the indicator solution (phenolphthalein) and run in the semi-normal acid. By this means the strength of the alcoholic potash is determined, under similar conditions to the estimation itself. The flask containing the oil and alcoholic potash is then removed, 1 c.c. of phenolphthalein added, and the solution titrated with the semi-normal hydrochloric acid, as in the previous blank case.

The difference in the volume of the standard acid used in the two titrations is equivalent to the caustic potash consumed in saponifying the oil or fat.

Example. 2 grams of oil were saponified by boiling with 25 c.c. of alcoholic potash solution. In this titration, 6.2 c.c. of $\frac{N}{2}$ HCl were required. In the blank experiment 19.45 c.c. of the hydrochloric acid were required. The amount of potash, therefore, used in saponifying the oil, was able to neutralize 19.45--6.2= — 13.25 c.c. of the semi-normal acid. The saponification value was therefore $\frac{13.25 \times 28}{2}$ = 185.5 mgrms KHO.

In the case of an oil of dark color, where the change of the indicator is hard to see, a brisk agitation, causing the formation of a white froth, may sometimes aid in reading the end reaction, or alkali blue can be used in the place of phenolphthalein.

In the cold method of saponification, about three grams of the oil or fat are dissolved in 25 c.c. of petroleum spirit, and to this is added 25 c.c. of standard alcoholic potash. The saponification is generally complete in about four hours, but it is best to leave the flask overnight, before titrating back the excess of alkali.

As the writer has previously mentioned, the saponification value is of importance when estimating the proportion of mineral oil, when mixed with an animal or vegetable oil. It is also of importance in detecting small quantities of these oils in mineral oils.

Example. 2 grams of light machinery oil, containing rape oil, was saponified by alcoholic potash solution, which, on titration, took 15.26 c.c. of semi-normal hydrochloric acid. In the blank experiment, 2.0 c.c. or $\frac{N}{2}$ —hydrochloric acid were required. (1 c.c. of standard HCl being equivalent to 0.028 grams of KOH) 21.0 — 15.26=5.74. The saponification value of the sample was $\frac{28 \times 5.74}{2} = 80.36$.

In order to find out the proportion of rape oil in the mixture it is necessary to look up the saponification value of rape oil, which will be about 178. The percentage of rape oil in the mixture will be

$$\frac{80.36 \times 100}{178} = 45.1 \text{ per cent.}$$

It is hoped that the above notes on the general principles of saponification will be found of value. Other determinations, entering into the examination of oils and fats, will be dealt with at a later date.

Antoine Baume.

A Paris correspondent of the *British and Colonial Druggist* writes in the course of an account of his round trip among celebrated Paris drug stores:

So I jogged on again, and in the Rue Coq-Heron, just off the Rue de Louvre, found the big bustling modern pharmacy which figures in our illustration as the "Pharmacie Page-Adrian-Gigon"—these are, of course, the names of its present and its two last proprietors. To me it was chiefly interesting as "Baume's Pharmacy."

A tiny inscription on the door stated "ci-devant 25 Rue Coquilliere." Now, 150 years ago Antoine Baume (1728-1804), Master Apothecary of the Corporation of Paris, and (in 1773) member of the Academy of Sciences, kept open shop in the Rue Coquilliere. His "Manual of Chemistry" and his "Experimental and Reasoned Chemistry" are out of date now, of course; but though his "Elements of Theoretical and Practical Pharmacy" sells for a franc or two on the Quai Malaquais (the "Bookseller's Row" of Paris) its perusal has given me a high idea of the author's ability. He invented the aerometer which bears his name, and devised the system of comparing thermometers; he wrote on the crystallization of salts, on the combination and preparation of fatty substances, etc.

His successors, Page and Adrian, have left honorable names in the records of Parisian pharmacy, and M. Gigon, the present proprietor, had his name brought prominently before the Parisian public lately. He is deputy-mayor of this quarter of Paris (the first arrondissement)—in fact, he was away at the "mairie" when I called. In this official capacity he celebrated the marriage of M. Camille Pelletan, Minister of the Marine, a few months ago. (Of course, in France the only legal marriage is at the town hall; the church ceremony has no official status since the Revolution.) I believe M. Gigon is the only living pharmacist, and one of the very few living laymen, who can boast of having thus bound a Minister of State in the bonds of wedlock.

A Letter From Dr. Herty on the Gathering of Turpentine.

To the Editor of the Scientific American:

My attention has been called to a communication in your issue of February 6, entitled "About the New Method of Gathering Turpentine."

The experiments of your correspondent, Mr. George W. Colin, in the use of detachable boxes, are historically interesting. His assumption, however, of the impracticability of any plan because of the failure of his experiments, scarcely needs comment other than a statement of the fact that at the present time there are at least three million cups in use by turpentine operators, and that this number would easily have been eight million, had the potteries been able to supply the actual demand in time for the present season.

Your correspondent quotes from an article in your issue of January 2, the statement, "New Method of Gathering Turpentine Invented by Dr. Charles H. Herty, and by him given to the public."

I am unwilling to receive credit for generosity which does not properly belong to me, and consequently feel that I should further add that the new system of cup and gutters devised by me has been patented, as it was devised by me before entering the service of the Bureau of Forestry; but the bureau, while recognizing my personal right to the patent, deems it improper for me to receive any royalty on the patent so long as I am officially connected with the bureau.

CHARLES H. HERTY.

Jacksonville, Fla., March 9, 1904.

What Becomes of the Rejected Boxes?

Here is an interesting question of law; the moral side of the problem is sufficiently plain. A manufacturer of a proprietary preparation secures his containers of protected form, design and label from a maker of boxes. A shipment of the boxes proves defective and is promptly returned. The box man sells the rejected goods to a competitor of the first proprietor, and the competitor fills the containers with counterfeit materials and places the spurious good on the market.

The question is this: In how far is the manufacturer of boxes liable for the injury done the first proprietary manufacturer? The second manufacturer is, of course, the real culprit, he is plainly guilty of a grave offense; but is the box man who sells him the containers entirely guiltless? Has he a legal right to sell the rejected goods to whomsoever he may see fit?

Here another interesting question arises. Every large manufacturer must occasionally reject containers which for some reason are not acceptable. These goods go back to the maker. Are they a dead loss to him, or does he dispose of them for the best price obtainable? What becomes of the rejected containers?—*Pharmaceutical Era.*

As Advertised.

Mrs. Subbubs (indignant)—"See here, sir; you claimed that your soap wouldn't injure the most delicate fabric in the world, and yet it has simply ruined this cloth!"

Bland Salesman—"But you see, ma'am, this is not the most delicate fabric in the world."—*Nat'l Laundry Jour.*

A False Prophet.

It was a Boston advertising solicitor who, failing to secure a Sapolio advertisement because of the old-fashioned conditions which his paper enforced, rates being doubled for display, 50 per cent. added for broken columns, 50 per cent. for cuts, etc., said to the protesting advertiser, who said that he might advertise when the system was changed:

"Our paper will be taking business on these terms after you are out of business."

He was a false prophet. Fame takes off her wreath to the *Herald* and *Globe*, of Boston, and compliments them on the common sense shown in their announcement that there will be no extra charge hereafter for extra display or broken columns. Perhaps that prophet has gone to his rest, but the Sapolio manager is still on deck with copy. However, Michael Wineburgh and his predecessor, William F. Carlton, have long held the advertising thus diverted.—*Fame*...

Siftings.

Cold-Made Cocoanut Soap: (From an article by A. Z. in Seifensieder-Zeitung). The making of soap by the cold process is of modern origin, comparatively, dating from the introduction of cocoanut oil into the manufacture of soap, and being first practically carried out in England. From England the process found its way to the continent, and in Germany it was the city of Hamburg where it was first practiced. Here settled, in the first half of the last century, a Scotchman who started to make soap by the aid of two wash-boilers. He succeeded so well, that he became the founder of a firm which still flourishes at this day, and whose white, unperfumed cocoanut soaps became the standard for other factories to emulate. It has happened that competitors succeeded far better in imitating the wrappers and prints, than in the care and attention to detail with which the soap was made.

That cold-made cocoanut toilet soap, manufactured with expert knowledge and unspoiled by filling, is an excellent product, is proven by the undiminished consumption in the face of the extensive offers of cheap and yet well-made milled soaps.

A soapmaker who knows his business can make a pure, unfilled cocoanut soap that will contain no free alkali and only a minimum of unsaponified fat (which will be pleasant in use rather than otherwise).

The special qualities of cocoanut oil soap are ready lathering, rapid action, and peculiar transparency. If it is desired to modify these, the most appropriate means is the addition of good tallow, olive oil, peanut oil or lard of the whitest color and as nearly odorless as possible. If over 25% of these fats are added, the soap resulting may be faultless, but the peculiar character of cocoanut oil soap will disappear; in fact, it will be more nearly of the nature of most milled soaps.

Copra oil is not a suitable variety of the oil, its specific odor, grey color and large proportion of free fatty acid making it unfit for cold-made toilet soap. Cochin oil yields the purest and whitest soap.

Rapid thickening in crutching, or even the separation of the fat and lye during the process, if no other irregularity has been permitted, is always due to a large amount of free fatty acid in the oil. The best oil is characterized by its white color and faint nutty odor; the latter is an important guide, for even a slightly yellowish or greyish oil—provided its odor is that of a good oil—may yield perfectly white soap. A strong odor is due to free fatty acids and indicates in advance that the soap made from such oil will not be faultless.

For the best quality of soaps, even the best of Cochin oil is subjected to a preliminary refining process, as follows: First, the coarser impurities are removed by settling and straining. Then a sufficient quantity of 15° salt water is run into a kettle and then the oil is boiled on it for half an hour. Now add for every 100 lbs. of oil 3 or 4 lbs. 38° to 40° soda lye; this causes a considerable boiling up of the kettle contents, and as neither the addition of lye or water will check this, it is necessary to proceed slowly and to provide sufficient kettle room in the first place. (This operation is performed by means of a fire-heated kettle in Germany and all the more dangerous on that account. A closed steam coil is certainly as effective and more manageable.) Open steam is unsuitable for the operation, as it closes the soap too far. Once the amount of lye named is all in the kettle, the danger of boiling over is greatly lessened. After a short boil, dry salt is added until a heavy, compact, dirty grey curd rises to the surface, where it must be promptly skimmed off while boiling slowly and before a large quantity of it can accumulate at one time. If a layer of the skum were permitted to cover the entire surface, boiling over would suddenly be inevitable. At last, when in spite of further addition of salt, only a clean, white froth arises, the operation is ended. Heat is turned off, and the oil left to settle. It should now be used as soon as possible; in other words, the stock should not be refined for a long time ahead, as it would deteriorate again.

The refined oil now is milky, dull, and a fine skin probably covers it—phenomena due to emulsification and formation of a little soap. Such an oil is nearly free from uncombined fatty acids and often requires hours of crutching for saponification, but the resulting soap is of snowy whiteness and unlimited durability. The lesser qualities of coacoanut oil require this refining all the more: oils that are not markedly improved by it, are simply unfit for the cold process.

The next point of importance is the temperature in

crutching; using the oil too warm readily causes disturbances. The best results are obtained at 80 to 84° F. in summer and 92 to 95° F. in the colder seasons.

Too long crutching, allowing the soap to become too thick before framing, causes it to harden prematurely at the bottom of the frame and on the sides before it can heat properly. The consequence is a well-formed, translucent soap in the center, while the remainder is dull and almost resembles a filled soap. For the same reason iron frames are not very suitable, as iron (being a good conductor of heat) prevents the spontaneous heating of the soap at the sides and the soap next to the iron forms badly and likely contains both free fat and free alkali. Good-sized wooden frames that will permit every particle of soap to heat to the point of complete liquefaction are the best, giving not only the most uniform product, but permitting also the full amount of lye possible without danger of free alkali remaining. Loose sheets of zinc placed on the bottom and on the sides of the frames are handy in preventing the soap from sticking. They are removed from the frame along with the soap.

The best results are obtained, furthermore, by adhering to one brand of high-grade caustic and using the lye always at the same strength—usually 38° B., but varying from 36 to 40° B. as to circumstances. Two parts of cocoanut oil require one part of 38° lye, made from high percentage caustic. Filled soaps usually require an extra allowance of lye to hold the filling.

In filling with silicate, the soap must not be allowed to get so warm as described before, as in that case a separation, or lack of uniformity in the soap at least, might result.

Vacuum Process For Tallow.

In the usual methods of tallow-melting, whether over direct fire or by steam heat, with or without additions of water, the albuminous constituents of the raw material are subject to decomposition, and the products of dry distillation and hydrolysis are undoubtedly dissolved by the tallow, to which they impart a yellow color and a disagreeable smell. When water is added, glue is formed, and this, too, undergoes decomposition during prolonged boiling, both the glue itself and its decomposition products being dissolved by the tallow, and thus forming a suitable medium for the development of bacteria. It is also probable that tallow obtained by melting over a naked fire contains a certain quantity of organic bases in solution, these then partially saponifying the tallow and liberating glycerine, which easily ferments and damages the tallow. A similar result follows from the changes produced in the tissue present in the raw fat, when steam heat is employed.

In view of these considerations, and of the fact that solutions of glue do not change when boiled in vacuo, though readily decomposed on boiling in the air, Lidoff concluded that he formation of glue from its originating materials would proceed very slowly in vacuum pans; and, in fact, he found that no glue could be obtained by boiling cartilage with water in a vacuum pan for one hour and a half, the material remaining entirely unchanged. For this reason he proposed to apply the vacuum process to tallow-melting, and has obtained successful results from the operation. To ensure success the crude tallow should be carefully washed, then sorted to remove as much as possible of the bones, fibres, sinews, and other fleshy matter, this operation being followed by chopping the mass down to a homogeneous pulp in suitable machines. The pulp should be washed until the water runs away clear, and the residue should then be melted in a vacuum pan (350 to 400 mm. vacuum) for one to one and a half hours.

When this last operation is completed, the contents of the pan are poured into the clarifying tank, where the tallow settles down, or rather the water and greaves sink to the bottom, leaving the tallow floating on the surface. To ensure complete separation of the impurities, the vessel is lagged with non-conducting material. Nevertheless, however carefully this clarification process has been carried out, it is advisable to force the clarified and solidified tallow through a fine filter, in order to remove the finely divided solid impurities held in suspension.

The purified product is pure white in color, exhibits a decidedly crystalline structure, is perfectly inodorous, and will keep for a very long time without suffering any change in its properties. For example, the acid value—initially 24—of a sample prepared in this manner, and stored for six years in a tightly closed porcelain vessel, only increased to 32 during that long period; whereas, a sample stored under precisely the same conditions, but prepared from the same raw material by melting over a naked fire, turned bad in the course of a few months, and acquired a highly disagreeable, rancid smell. The greaves furnished by the vacuum process retain the original structure of the tissue, and, when dried, pressed, and stored in a dry place, keep without alteration for a long time, and form a valuable fodder, as well as constituting a first-class raw material for the manufacture of glue, more especially since they principally consist of gelatinous substances.—*Chem. Rev. Fett- u. Harz. Ind.*

The box department and machine shops of the Pennsylvania Soap company was totally destroyed by fire last week. This is the Lancaster branch of the Pennsylvania Soap company, with other plants at Pittsburg and Buffalo; $200,000 insurance was carried under general form. The loss is about 10 per cent. The entire plant was equipped with Kane sprinklers, excepting the box department.

On The Manufacture of Soap.

In an "Industrial History of Birmingham," published in 1866, the following interesting article occurs (abstracted by Oil and Colourman's Journal):

Birmingham and the surrounding districts obtain their chief supply of hard soap from the local manufactories, also from London, Liverpool, Warrington, and Bristol. Formerly soap-making was carried on in most of the small towns of the kingdom, and, but little was furnished by the seaport towns.

The improvements, however, introduced in the processes of manufacture by the larger makers in the seaport towns, together with the facilities of transit by means of canals and railways, have greatly diminished the number of makers in the interior parts of the country. About the commencement of the present century, the principal hard soaps in use were—white soap, consisting of soda and tallow; mottled soap, consisting of soda, tallow, and kitchen grease; and brown soap, consisting of soda, palm oil, and resin. The palm oil in its natural state being of a red color, against which much prejudice existed, it was partially bleached by means of nitric acid. An improved method of bleaching was discovered by Mr. Boyle, who first introduced it at the works of Messrs. Blair, of Tipton. It consisted of simply heating the oil to a temperature of 430 degrees. This improvement was in its turn superseded by boiling by steam and exposing a large surface of the oil to the action of the air. Finally, a still more effectual method of bleaching was discovered, and is now generally adopted. It is accomplished by treating the oil with bichromate of potash and hydro-chloric acid. The superior quality of soap yielded by this process greatly diminished the consumption of those kinds previously in use, and it became the staple article of demand in the Northern and Midland Counties. In London this kind of soap was objected to from its peculiar odor, and one made of tallow and resin was generally preferred. Since the repeal of the duty on soap, which occasioned a reduction to the consumer of more than 1½d. per lb., the tallow and resin soaps just referred to have had a largely increased consumption. About sixteen varieties are now manufactured, a blue mottled soap, made of palm oil and cocoanut oil, lately introduced being much in request in this district. From time to time considerable improvements in the process of soap-making have taken place, one of the most important of which was introduced about twenty years ago, being the application of steam to the boiling of soap, in lieu of the old method of boiling by an open fire. Another improvement consisted of an alteration in the mode of causticising the alkali. This is now done by boiling by steam a mixture of lime and carbonate of sodium. Previously the alkali was interstratified with lime in a vat, and the caustic soda separated by filtration.

A considerable saving has been effected in the cost of the production of the alkali used in soap-making by a process introduced at Widnes. The crude soda liquor obtained from the decomposed sulphate of sodium contained a portion of sulphide of sodium, which was objectionable on account of its communicating a bluish tint to the saponified fat. This defect, formerly obviated by evaporating the liquors and heating the residue in a reverberatory furnace, is now remedied by warming the liquors and passing them down through a tower filled with coke, through which a current of air is passing in an opposite direction.

The manufacturer also uses the weak caustic lees in his steam boilers instead of water, thus effecting by one process the generation of steam and the concentration of the lees.

With respect to the consumption of hard soap in Great Britain and Ireland, it is computed to amount to rather more than 100,000 tons per annum. Estimating the population at 30,000,000, this would give 7½ lb. for each person.

The quantity produced in Birmingham and its immediate neighborhood probably does not exceed 2,500 tons per annum.

Hard soap is made by boiling oil and tallow, or these materials mixed with resin, with a solution of caustic soda. To prepare this solution, which is called lees, a quantity of carbonate of sodium is first dissolved in a vat with boiling water; the solution is then syphoned off into another vat of large dimensions, where it is mixed with caustic lime, and the density reduced by water to 20 deg. of Twaddell's hydrometer. This reduction of density is found greatly to facilitate the causticisation of the lees. The mixture is boiled by free steam for an hour or more, and when the solution is found, by testing, to be sufficiently caustic, the boiling is discontinued, the lime deposits itself in the vat, and the clear lee is removed by a pump into a reservoir. It will be found when cold to have a density of 24 deg., and to contain about 7·85 per cent. of caustic soda. The pans or "coppers" in which soap is made are large cylinders of wrought iron, from 15 to 20 ft. in diameter, and from 12 to 15 ft. in depth. The bottom is formed by a wide flange, in the centre of which there is a cup, 3 ft. in diameter, and 2½ ft. in depth, to receive the pump, and a coil of pipes for boiling the copper by steam. This coil has no perforations, and is intended to heat the lee, or soap by surface action only. Another coil of pipes, with perforations, is laid upon the flange for the purpose of boiling by free steam.

The process of soap-boiling is commenced by placing in the copper from 12 to 15 tons of tallow, and adding a

quantity of lee from the reservoir. The free steam is then admitted, and the materials brought into a state of ebullition. When it is found by tasting that the lee has lost its sharpness, another addition of lee is made, and this operation is repeated till the copper is full. The soda of the lee is now combined with the tallow, the product being in a state of close union with the water. To separate the latter, a quantity of eommon salt is added, which causes the partially saponified tallow to rise to the surface. The spent lee, which contains the glycerine previously in combination with the tallow, together with the common salt, carbonate and sulphate of sodium, and some other impurities, is now removed. This is usually done by a pump, though this method is troublesome and unnecessary. By the ninth section of the Act of Parliament which regulated the process of soap-making till a late period, it was forbidden to remove the lees or soap from the copper by any other means than by a "movable pump and open shute, or by pails and ladles only." It is difficult for anyone unacquainted with the trade to estimate the amount of inconvenienee occasioned by such a regulation, and several makers, finding it impossible to adapt the apparatus in use during the existence of the Excise restrictions to modern improvements, have recently erected new manufactories. The coppers were formerly plaeed in the basement of the building, and the soap had to be carried in pails to a room on the same or higher level. By reversing this order, and placing the coppers in the upper story, it is easy to remove either the lees or soap by running it off through a tap.

After the removal of the spent lee, a further quantity of lee is added, and the process above described is repeated till the whole of the tallow is converted into soap. This is known to be accomplished when, after a long boiling the causticity of the lee is maintained, and the soap is no longer greasy to the touch, but breaks into scales or layers when pressed between the fingers. The partially spent lee is now removed, and such a quantity of water added as will bring the soap to a perfectly fluid state. When this is found to be effected, lee is slowly added till the soap begins to part from the weak lee. The use of free steam which has hitherto been employed is discontinued, and the copper is made to boil by the close coil. As the evaporation proceeds, a light froth or head gradually covers the surface of the soap, which is now a mass of small grains, and the process is complete. The supply of steam being stopped, the whole is allowed to rest for twenty-four hourse, during which time the lee subsides. The soap is now removed by a ladle, and placed in moulds or frames made either of wood or iron. The wooden moulds are made by placing a series of wooden frames onc upon another, each frame (technically called a lift) being 5 in. deep, 45 in. long, and 15 in. wide, resembling a box without top or bottom. The whole are bound together and secured to an iron bottom by means of iron bars, so as to form a vat of the depth required, usually about 60 in. The next operation upon the soap is called "crutching," and consists of stirring it with an implement called a "crutch," with the handle downwards, the effect being to give the soap an uniform and smooth appearance. The product is ealled white or curd soap. It is found by analysis to contain:

Soda	6-96
Fatty acids	61-63
Water	30-30
Iron, alumnia, chloride, and sulphate of sodium	1-11
	100-00

When the soap has remained in the frames for about a week, and has become hard, these are removed. It is then cut into layers by a wire, and divided into bars by a machine. After twelve hours it is ready for sale.

Primrose soap is made by saponifying the tallow in the same manner as for white soap, and then adding a quantity of fine resin equal in weight to one-fourth of the tallow used, and continuing the operations in the manner before described. But as a soap containing resin, if framed in a state of eurd, would be opaque and objectionable in appearanee and color, it is necessary to submit to a further operation, called "fitting." This process is effected by removing the lees from the bottom of the copper by a pump, and adding a quantity of water amounting to about 5 per cent. of the weight of the soap. The addition of water brings the soap into a perfectly liquid state, and, after well boiling, the steam is turned off, and the whole left to settle for forty-eight hours. The water does not continue mixed with the whole of the soap, but, combining with a portion only (generally about 25 per cent.), sinks to the bottom of the copper, carrying with it the excess of alkali, together with the earthy and metallic salts and other impurities which may happen to be present. This deposit is called "nigre."

The supernatant soap is now transparent and of a lemon color, containing by analysis:

Resinous and fatty acids	62-00
Soda	6-96
Water	30-50
Chloride and sulphate of sodium	0-54
	100-00

It is worthy of remark that a loss of resin occurs during its conversion into soap equivalent to 40 per cent., and no method has been devised by which this loss can be remedied, or has the subject reeeived that consideration which it deserves.

Extra Pale Soap.

The nigre remaining after the removal of the primrose soap is of dark color, and cannot be used again for the manufacture of the same kind of soap. It is, therefore, usually transferred to another copper, where it is mixed with a quantity of tallow and saponified as before. This addition partially obviates the defect, but, as the soap produced is not equal in color to primrose soap, it is sold at a lower price under the name of extra pale.

Tallow Crown.

The nigre from the extra pale soap is made into tallow crown by adding a quantity of brine, and boiling to a curd.

The brine is then removed by the pump and the soap fitted in the usual manner, no fresh material being employed. The nigre is returned to the suceeeding boil of tallow crown. This soap, being much inferior in color to extra pale, is sold at a lower price.

Various causes have been assigned for this deterioration in color; by some it has been attributed to the preesnce of iron and alumina derived from the lees, but as this change in color does not take place in a soap made without resin, it eannot be due to the mere *presence* of the metals, or to their combination with tallow. Others have thought that a much larger quantity of resin was present in the nigre than in the soap, and that this might cause the degradation in the color, but as the tint is brown while the eolor produced by resin is yellow, this explanation is not satisfactory. It may possibly arise from the action of the alkali upon some constituent of the resin, or from a combination taking place between the resin and the iron and alumina. When a cheap tallow soap is required, it is made by the addition of weak brine in the frames.

Palm Oil.

Palm oil in its natural state is of a red color, which it is necessary to remove. This is effected by first melting the oil in a vat, and allowing it to stand for some time to deposit any impurity which may be present. It is then transferred to another vessel, and allowed to cool to 90 deg. F. To each ton of oil, 20 lb. of bichromate of potash, dissolved, and 56 lb. hydrochloric acid, of 28 deg. Twaddell's hydrometer, are added; the whole is well stirred, and in about half an hour is found to be nearly free from color.

Ten gallons of boiling water is now added, and the whole, after well stirring, is left to subside. The sesquichloride of ehromium and chloride of potassium are found in solution in water at the bottom of the vat, and the oil is ready for use.

Palm Oil Soap.

Crown pale is made from chrome-bleached palm oil and fine resin, in the same manner as primrose soap.

Mottled brown is made from palm oil bleached by nitric acid. This process is less expensive than the method of bleaching by bichromate of potash, and as an inferior and cheap resin is used, the soap is sold at a lower price than crown pale.

Third pale was at one time more largely consumed in the Midland Counties than any other variety of soap. Since the repeal of the duty, in 1853, better kinds have been substituted at a lower price, and third pale is now but little used. It is made by adding 3½ cwt. of weak brine to 16½ cwt. of crown pale. This addition is made in the frames.

Common yellow is made by adding 8 cwt. of weak brine to 12 cwt. of mottled brown soap in the frames. The effect of chloride of sodium and many other salts upon soap is curious. If an attempt be made to unite the latter with water, even at a boiling temperature, and immediate stiffening of the mixture takes place, and the whole becomes nearly solid, but if to this mixture a few pounds of common salt be added it will be brought to a state of perfect fluidity, and will not resume its former consistence until the temperature is reduced to 130 deg. F. The production of a state of fluidity, however, is not the only result obtained by brine. It has the property of hardening soap to an extraordinary degree, even though a very small quantity be added, the effect of a few ounces of strong brine upon a ton of soap being quite perceptible.

Mottled Soaps.

First, mottled is made in the same manner as white soap, the materials employed being tallow and kitchen stuff. The mottling is not produced by any artificial addition, but is, in fact, the nigre or metallic soap, which distributes itself in spots when the soap is allowed to undergo a semi-cristallization by gradual cooling in large frames. In yellow soaps, the nigre is deposited in the coppers by the process of fitting, and in white soap is prevented from separating by rapid cooling. Popular prejudice, however, is in favor of this appearance in this description of soap, which was at one time a guarantee of genuineness, no method being known by whieh a mottle could be introduced into an adulterated soap. Since the repeal of the duty, many varieties of watered mottled have been manufactured and largely sold, the genuine mottled soaps being in this locality almost superseded by the adulterated ones.

A very had and beautifully mottled soap was found, on analysis to contain:

Fatty acids	18-66
Water	62-50
Soda	4-24
Sulphate of Sodium	0-67
Chloride of Sodium	10-31
Silicic acid	0-30

Iron and alumina	0-57
Organic matter and glycerine	2-75
	100-00

Whereas a genuine mottled soap contains:

Fatty acids	62-00
Water	30-00
Soda	7-00
Iron, alumina, chloride, and sulphate of sodium	1-00
	100-00

Crown mottled differs from first mottled in being made from bone grease only, and has the same percentage composition. Blue mottled, which is of recent introduction, is largely used in Birmingham and the surrounding districts. Its manufacture, which is of German origin, was first introduced into England by Mr. Kottula, superintendent of the works of Messrs. Blake & Maxwell, of Liverpool, who obtained a patent for the invention.

Messrs. Palmer, of London, some time afterwards commenced the manufacture of this kind of soap, and contested the validity of the patent in a court of law. It was well known in the trade that the patent was invalid, and in one case a manufacturer submitted to work under a license for which a large sum was paid rather than incur the expense of a legal contest. It was proved upon the trial that a description of the process had been published in a book written by a Mr. Kurten, and that soap had been made in London from directions contained therein. The patent was therefore declared to be invalid. Previous to the trial, the licenses under Kottula's patent were threatened with legal proceedings by another patentee, who asserted that Kottula's patent was an infringement upon one previously granted to him. The evidence produced upon the trial was so conclusive that no further steps were taken.

The process by which blue mottled soap is made is as follows: A quantity of palm oil, bleached by bichromate of potash, is saponified and boiled to a curd in the usual manner. The curd is then transferred to another copper, and a quantity of cocoanut oil, equal in weight to half the palm oil, is added, and saponified with twice its weight of lees at 34 deg. of density, Twaddell's hydrometer. Some ultramarine blue is then added, and the soap, which is not in a state of curd, but in combination with all the water of the lees last used, is transferred to the frames. The ultramarine in cooling separates from the soap, and produces the mottled appearance. This soap contains, by analysis:

Fatty acids	46-13
Soda	6-85
Water	43-00
Glycerine, iron, alumina, chloride sulphate of sodium	4-02
	100-00

It should be borne in mind that the manufacturers do not derive any advantage from the practice of adulteration, which is adopted to enable the retailer to accommodate his price to the requirements of his customers.

New Columbian Tariff.

The Columbian tariff law of Oct. 31, 1903, translated by Consul General A. G. Snyder at Bogota, shows the following changes, among others, in the new tariff scale for imports into that country.

Class 2.—1 cent gold per kilogram (2.2046 lbs.), stearic acid for commercial purposes, stearin and tallow, not manufactured.

Class 4.—3 cents gold per kilogram (2.2046 lbs.)—Common resin and tallow soap.

Class 6.—10 cents gold per kilogram (2.2046 lbs.)—Alimentary products, prepared; tallow or other candles not specifically mentioned; common oil soap and others, except those which figure in the fourth class.

The U. S. Flag As A Trade-Mark.

The Appellate Division of the Supreme Court of the State of New York has decided that Sec. 640 of the Penal Code, which prohibits the use of the representation of the United States flag for the purpose of trade advertisement, is unconstitutional.

The court holds that the section violates not only the State, but also the Federal Constitution, and is an unwarranted interference with personal liberty and an attempt at class legislation. There can be nothing, says the Court, in the use or representation of the Stars and Stripes to belittle or degrade the United States ensign. On the contrary, its depiction and the colors that usually accompany such decoration must inspire a feeling of patriotism.

John H. McPike, the manager of the cigar department of a general store, was arrested some months ago for offering for sale several brands of cigars upon the boxes of which the Stars and Stripes were displayed.

The Appellate Division upholds his release on a writ of habeas corpus, saying that it is nowhere apparent that the defendant's cigar box labels tended to degrade or belittle the flag. The trademark and label adopted by the cigarmakers had been used long before the passage of the amendment to the Code, and had always been considered legitimate. The right to a trademark, says the Court, is a well defined property right.

While it is plain that the provision of the Code regarding the defilement, mutilation or degradation of the flag comes well within the authority and police power of the legislature, the same cannot be said of the provisions regarding advertisements. If the flag is publicly degraded, says the Court, there is liable to be popular anger and possibly riot. Therefore, the legislature in its police power has the right to make such defilement a crime.

But, continues the Court, the advertisement provisions are unwarranted and unconstitutional. In the first place they are an unjustifiable interference with the liberty of citizens, and secondly they exercise an unjust discrimination and interfere with commerce.

The law also, says the Court, clearly makes a class discrimination which is unconstitutional, since book publishers, jewelers, stationers, and newspaper proprietors are expressly exempted from its penal provisions.

PATENTS AND TRADE-MARKS.

The following list of recent Patents and Trade-Marks is reported by W. G. HENDERSON, Solicitor of American and Foreign Patents and Trade-Marks, Norris Bldg,, Washington, D. C. A copy of any of the following will be furnished by him for 15 cents.

PATENTS.

755,362. Machine for stamping soap, etc. Llewellyn L. Conway, assignor of one-half to Louisville Soap company, Louisville, Ky.

755,479. Manufacture of starch Robert Goldschmidt, Tajkovitz, and J. Hasek, Shichov, Austria-Hungary.

755,945. Soap and making same. George A. Schmidt, Chicago, Ill.

757,397. Soap and soap holder. Edwin M. Goldsmith, Philadelphia, Pa.

TRADE-MARKS.

42,374. Perfumery. Colgate & Co., New York, N. Y. The word "Fantasy."

42,375. Toilet Soap. Colgate & Co., New York, N. Y. The word "Fantasy."

42,376. Certain named soap. Vinolia Co., Limited, London, England. The word "Dylissia."

LABELS.

10,940. Title, "Dr. Grey's Almond Cream Toilet Soap." (For toilet soap.) Enterprise Soap Works, Nashville, Tenn.

10,928. Title, "Radium." (For soap.) Gerhard & Boehning, Cincinnati, Ohio.

AROUND THE SOAP FACTORIES.

News-items sent us by our readers will find prompt attention in this column

St. Louis, Mo., March 29.—The St. Louis Soap Company, a St. Louis corporation, has nearly completed a one-story soap factory on Winstanley avenue, East St. Louis, near the Swift and Armour packing plants. The building is a frame structure, 50x110 feet, and will be equipped with machinery and all modern facilities for the manufacturing of laundry and borax soaps. It is the intention, later, to replace the present building with a brick structure of greater capacity, and to increase the business throughout the Southwest.

The Ermine Soap Co. has been incorporated with a capital of $25,000, to manufacture laundry and toilet soap, and is remodeling the Tritsch Woolen Mills building at Logan, Ohio, for its purpose.

Koelle, Speth & Co., architects, are preparing plans for a soap manufacturing plant in Reading, Pa. It will include a three-story warehouse, a three-story factory, a two-story stable, a one-story office and a one-story stable, covering an area of about 1½ acres. All will be of brick mill construction.

The Green Bay (Wis.) Soap Co. has secured a contract to supply the various state institutions of Wisconsin with laundry soaps for one year.

T. J. Reynolds, for many years sales manager of the N. K. Fairbank Co., has resigned his position with that company to become associated with the Globe Soap Co. of Cincinnati. Since April 1st he has been the secretary of the latter firm. Geo. B. Wilson is the treasurer.

The Akron Soap Company has been incorporated in Columbus, with a capital stock of $50,000, by Adam Duncan, E. E. Otis, Alex. G. Duncan, Archibald A. Duncan, W. M. Graham and J. S. Benner.

The new company will have its plant along the Ohio canal, north of Akron.

This firm is a reorganization of the former Akron Soap Co., whose factory was located in Akron, in a building owned and now occupied by Henry Robinson.

The Paeker Tar Soap Co. is planning the erection of a $30,000 factory building on the East Side of Mystic, Conn. That's what the latest papers say, anyway.

New York, April 21: The Erie has located the Babbitt Soap Co. on its line near Granton, N. Y., where a new town, to be called Babbitt, will be founded.

Incorporated: Cape City Soap Works, Cape Girardeau, Mo.; capital $40,000. C. J. Gratiot, Louis B. Houck and others, incorporators.

Memphis, Tenn., April 4 (Special)—Articles of incorporation of the Mineral Soap Company have been filed here, with a capital stock of $100,000. The incorporators are nearly all Memphis men. The company

has already secured a lease on the Bickford building on Centre Alley, and is now installing the necessary machinery. During the present week the actual manufacture of soap will be started.

A cotton oil mill, soap factory and candle making plant are to be built in Progreso, the principal port of Yucatan. The necessary concession has been granted to Carlos Lanaux and Arturo Echanove.

The Schulz & Co., of Zanesville, has filed the neeessary papers with the secretary of state to reduce its capital stock from $500,000 to $300,000.

In the conflagration which destroyed a large section of Toronto's (Canada) business district, the works of the Comfort Soap Co. were entirely destroyed.

The tallow and soap works of A. Lord & Co., at Everett, Mass., were damaged to the extent of $2,000 by fire on April 13.

A. A. Wellington of Oswego, N. Y., has gone out of the soap business.

Mark Sherwin has accepted the position of soap maker at the Standard Soap Works, San Francisco, or rather, West Berkeley, Cal. D. E. Dowling, who had that position for twenty years or more, has left.

Aaron Mendleson, of the firm of Aaron Mendleson & Sons, potash and soap powder manufacturers at Albany, N. Y., died on April 11 at his residence in that eity. Mr. Mendleson had been ill for some time. A widow, four sons and three daughters survive him

Employes of the Standard Soap factory in West Berkeley discovered a strange old man, now believed to be demented, in the act of setting fire to the works on April 13th. He was taken in custody just in time to avert a disaster.

Something evidently "will be doing" in Des Moines or Iowa City before long. The following are three items published in a few days' intervals in the Des Moines Capital:

April 9: The Windsor Bros.' Soap company, reeently organized by Leland and Raymond Windsor, has made a lease of the double three story building at West Second street and Court avenue, now occupied by the Rollins vinegar and pickeling works. The company will take possession about May 15 and expects to have its factory running about July 1.

April 11: (Special from Iowa City to the Des Moines Capital): It is reported here that there will be a new soap manufacturing company put in this summer with a capital stock of $25,000. Some of the strongest business men in the eity are said to be behind the enterprise. The company will not be obliged to build a new building, as there is such a one as will suit their needs now standing empty.

April 15: Cashier McKinney of the Capital City State bank, who is trustee for the Puck Manufaeturing company, has about perfected the foreclosure of the bonds against the company's old soap plant, and is arranging to sell it. Mr. McKinney said:

"The Boltons hold about two-thirds of the bonds and I expect them to bid the property in at the sale."

It was learned that the Boltons have about perfected the reorganization of the old Bolton Soap Company, which formerly operated the plant with the purehase of the property in view. It is the plan of this eompany to continue the soap-making business of the old Puek company, and in addition to add to the plant and inerease the output of the laundry soap department. To this end they have closed a contraet with Frank Mason for the exclusive use in Iowa of the Mason Crystal White formulas, formerly controlled by a Clinton company, and which is now being used by the big Peak factory in Kansas City.

It is understood favorable progress is being made toward an arrangement with grocery jobbers to handle the output of the plant.

Paterson, N. J., April 29.—Harry Rose, manager of the local office of the Hygiea Soap company, and a general good fellow, is not in town, and his friends are at loss to account for his disappearance.

About the first of February, when the company opened an office in this city, Rose was installed as manager. He did quite a business with the machine. It was designed to be used in the toilet rooms of factories and was found to be good for the public building and bar room toilet rooms. Rose had installed about fifty of these machines in different places in this city.

Rose left his home in this city a week ago Monday morning, without taking even an extra dollar with him. He went to the New York office of the company and there waited over an hour for the manager. He left saying that he was going out to get a dress suit case. He returned later and this time did not see the manager. He finally left the office saying that he had sent a check to square up his accounts and that it ought to be at hand that day.

Rose has not been seen in this city since. When he did not appear his brother opened the office of the company in the Romaine building and kept business going for a time. Finally he notified the New York end of the concern. They sent a new manager in his place, who arrived last Tuesday.

Additions to Our Brand List.

346 Beanmont Soap Co., Mayfield, Ky.
347 Lockwood Soap Co., Kansas City, Mo.
348 Oklahoma Soap & Oil Co., Oklahoma City.
349 M. F. Windsor Soap Co, East Buffalo, N. Y.
350 Florida Cotton Oil Co., Jacksonville, Fla.
351 Brown Soap Co., Dayton, Ohio.

Allpine Tar 337
Ammonaptha 347
Aquidneck; F. P. Garrettson & Co., New York City.
Bauty 32
Bestever 286
Big Injun 348
Big Luck 350
Bi-Naptha 348
Bleachem Soap 341
Blo-Re-Mo 333
Breath of Heliotrope 337
Breath of Lilacs 337
Breath of Roses 337
Breath of Violets 337
Brightshine 106
Cade-ola 3
Chiles' Cactus Cream Skin S.—Geo. Catlin, Chicago.
Coaster 32
Cream Naptha 343
Cricket Soap Powder; Davis & Marston, New York City.
Der-Foda 3
Dylissia—Vinolia Co., Ltd., London, England.
Ebony 351
Egg Tar; Lee Specialty Co., Detroit, Mich.
Fantasy 11
Flaco 350
Gasene 106
Gasoline Laundry Soap 120
Gondola 38
Grandma's Ammoniated Powdered Soap 38
Gray-beard 348
Green Oil Soap 341
Hasn't Scratched Yet; Bon Ami Co., New York City.
Home Pride 347
India Castile 337
La Platte 337
Letter Box 38
Lily Blossoms 337
Marigold 106
Milo 106
Monahan's Green Soap 341
Naptha Washing Powder—(for Canada) W. H. Judd & Co. Hamilton, Ont.
Norway Tar 349
O. K. Tar 348
Oilex 348
Old Man 4
Orchid Blossoms 337
Oriental Tar 337
Papoose 348
Polar Bear 106
Postman's 38
Pow Wow 348
Queen Regent 337
Quo Vadis 337
Raven Tar 337
Red Hot 38
Rio Grande 337
Rose Blossoms 337
Rozine—Frank Harrison, Norfolk, Va.
Snow Float 348
Soapex; W. R. Hollingshead Co., New York City.
Spotless 350
Steamboat 350
Summer Blossoms 337
Snnhurst 106
Tar Egg 347
Tarlex 348
Tarline 349
The Two Tars 286
Top Notch 106
Transparent Brilliant 337
Transparent Rose 337
Type Soap—Type Soap Co., Pierre, S. D. and Chicago.
Veribest 286
Violet Blossoms 337
Washaway—Wasbaway Mfg. Co., New Bedford, Mass.
Wheel 32
White Purity 349
White Zephyr 349
Yellowstone 106

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113 Puck Manufacturing Co., Des Moines, Iowa.
Puck's 113
Puck's Mechanics 113
Puck's Shaving 113
Puck's Tar 113
Snowhite 113
Kitcholine 113
Floss 113
Iowa Belle 113
"High 5" 113
Carbolized Castile 113
Fuzz 113
White Linen 113

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SUPPLEMENTARY LIST

OF THE

BRANDS OF SOAP MANUFACTURED IN THE UNITED STATES

Including also the Brands of Foreign Manufacture Registered as Trade-Marks in this Country.

NOTE: This list is compiled with the greatest possible care, but the publisher does not assume any responsibility other than to correct and to complete the list according to data obtained from official sources or furnished by the trade. Brands registered in the patent office as trade-marks or labels are given with the name of the party registering same. Brands or names marked * are those which were found to be used by more than one firm or the owner of which could not be ascertained. ☞ SEE THAT ALL YOUR BRANDS ARE ENTERED IN YOUR NAME.

3—Liberty Mfg. Co., Chicago.
344 Home Soap Co., N.Y.
345 Columbia Ref'g. & M'f'g Co. Ltd., New Orleans.

Abrado, Floridine Mfg. Co., New York.
A Happy Home 4
Alabama Tar 3
All-need it 286
Amazon Coco 337
Amber Rose 346
Anchor Castile 3
Angelus 54
Antelope 3
Antillia 2
Anty Up 340
Apple Blossom 337
Atoka 346

Baby Mine 8
Bannock 3
Beauty Belle 151
Beaumont's Shaving 8
Beef Oil 340
Bell's Brown 343
Bell's Naphtha 343
Ben Hur 3
Bicycle 3
Big Glycerine 3
Billy-Goat 340
Blossom Bouquet 3
Blue Chip 340
Blue Cloud 2
Blue Coco 340
Blue Family 340
Blue Monday 340
Blue Olive 340
Boast 3
Botica Francisca 3
Bouquet Chic 3
Bonquet Reverie 3
Brazilian Bath 3
Bunny—Hewitt Bros. Soap Co. Dayton, Ohio.

Calcutta Castile 337
Calumet 3
Camille 3
Ceske Slovonsky 3
Ceske Polski 3
Chlorine 340
Cleaneasy 286
Climax Chip 54
Cloth Pin 340
Cloths Pin 340
Coa Nut 346
Coca Foam 3
Columbia 3
Conto & Elroy Castile 3
Credential Shaving Stick 16
Crown Princess 337
Crystal Honey 346
Crystal Sulphur 3
Crystal Palace 3
Crystal Transparent Tar 3
" " Carbolic 3
Cuban Rose 3
Cuta Alba 3
Cultoderma Medicated 3
Cycle 3

Daetylis 11
Dermicura 327
Diadem 3
Druggist's Transparent 3
Dr. Allens Medicated 3
Durango Best, Durango (Colo.) Soap Co.

Elk's Bouquet 346
Empress Eugenie 115
Empire Geranium 337
Encryl Encryl Ltd., Hull, England.
Eureka 3
Evergreen 286
Expert 286

Facine 340
Fairbank's Primrose 2
" Scouring 2
" German Fam. 2
" Glycerine-Tar 2
" Mottled Germ'n
" Olive 2
" Navy Blue 2
Federal Family 1
Floral Feast 115
Flannel 2
Flip 345
Force, Cincinnati Soap Co., Cincinnati, Ohio.
Fragrant Honey 2
French Violette 3
Frog 340

Gem Wash, Compound, Clara Pearce, Philadelphia.
Georgia Oleine 29
Geronne Violette 3
Geyser 343
Giant 3
Gloriola 29
Glycerated Tar 346
Glycerderma 3
Golden Rose 3
Gold Seal Soap Flour 340
Goodhair, Goodhair Remedy Co., Newark, Ohio.
Green Olive Chip 340
Green Palm 340
Green Seal Chip 340
Gusher 340

Hard Maple 155
Heliotrope Blanc 3
Heliotrope Ideal 334
Helix 54
Hi Lo 96
Home Castile 3
Horse Oil Harness 340
Hots Springs Bath 3
Hy-Lo 96

Ideal Bouquet 3
Ideal Family 3
Idyllwild 54
I-Lika-U 286
Ilo-Ilo 340
Imperial Crown 3
Iroquois Maiden 115

Jack & Jill 340
Jack Pot 340
Japanese Bath 3
Jeroue Bouquet 3
Jewel 2
Jus de Framboise 3

Kaska Bouquet 346
Kazan 343
Kimola, Bell Mg. Co., St. Louis, Mo.
King Solomon's Rock Oil S. Muross Jenkins, N. Y.

Lakeside (Scouring) 2
La Mariposa 54
Lamsuet 3
Lasco Napthol 54
Last Long 286.
La Virtho, John S. Nichols, New York.
Le Fameux 16
Le Fameux Rose de Seville 16
Le Fameux Violette de Sevill 16
Le Fameux Peau d'Espagne 16
Le Famenx Jockey Club 16
Lemola Toilet. Lemola Soap Co., Los Angeles, Cal.
Lemolive 54
Lemonine, E. H. Krant, Cincinnati.
Lettuce Cream 3
Libertys London Transparent 3
Liberty's Quartette 3
Liberty's Genuine Bouquet 3
Limberine, E. A. Warren, St. Paul, Minn.
Lion 2
Lisette 3
Little Sweetheart 346
Llama 3
Long Shot 345
Lotus Bouquet 3
Lotus Honey 3
Lotus Glycerine 3

Madeira 16
Madeira Almond Cream 16
Madeira Cucumber Cream 16
Madeira Lettuce Cream 16
Madeira Olive Cream 16
Marjorie 337
Marveline 300
Marvelo, National Process Co., Rochester, N. Y.
May Field Bouquet 346
" kina Skin 346
Maxine Elliott 337
Medical Lake 3
Medicated Witch Hazel 3
Mentholatum Corn Oil S. 169
Mexicano 54
Michigan Family 2
Mildred 337
Millens Cream 3
Millens Toilet 3
Milleus Antiseptic 3
Millens Tar 3
Miners Tar 3
Milk Bath 3
Monroe 3
Moss Rose Borax 3
Mox-Nix 340

Naphtha Toilet 340
Naphthal 340
Napthol 340
Naptholive 340
Naptha Washing Powder—Hunt Mfg. Co., Cincinnati, Ohio.
Natural Gas 340
Next-To. Phoenix Chem'l Co. New York.
Nolabor 340
Northern Star 3
Noxlabor 340
Noxwork 340
No. 81 White Rose Glycerine 3
No. 3725 White Rose Glycerine 3
No Name 3

Old English Brown Windsor 346
Old English Blue 3
Old Linen 3
Old Time Tar 3
Olive Bath 3
Orinoco 337
Orris Unsceuted 337
Otis Lightning, C. H. Waterhouse, Essex, Conn.
Our Baby's Bath 3
Our Own 3
Our Special 3
Oxolive 340
Oxigen 340
Ox Oil 340

Palmo 340
Palm Oil S. Powder 340
Palm Soap Flour 340
Parisian Toilet 54
Passion Rose 298
" Violet 298
" Pink 298
" Lily 298
Peace 340
Peach Blue 340
Peerless Country Club 337
Peerless Forest Violet 337
Peerless Lily of the Valley 337
Peerless New Mown Hay 337
Pen Yen 340
Perfecto 121
Plantol Lever Bros., Limited Port Sunlight, England.
Poncine Erasive 3
Pony Up 340
Popular Blossom 3
Premium, Davenport (Iowa) Soap Co.
Premium W. Powder, Davenport (Iowa) Soap Co.
Preventionette, Willard Chemical Co., Malden, Mass.
Pure Large Oval 3

Queen Complexion 3
Quick and Easy 56

Radiant Violet 3
Red Raven 346
Reve d'Amour 3
Rex Cremo 340
Rex Family 340
Rex Liquid Soap 340
Rexolene 340
Rexolive 340
Rockford Scouring 2
Romola 3
Rose d'Or 3
Rose Glycerine 3
Rose Immortelle
Royal Lily 16
Rubbo, Lever Bros., Limited, England.

Safeguard Carbolc 53
Samson's Transparent Tar 3
Saudalwood 3
Sani-Tari Skin, Citizens Wholesale Supply Co., Columbus, O.
Santa Rex Castile 2
Sauer's Complexion 3
Savon White Rose 3
" Jockey club 3
" Violete de Parme 3
" Hyacinth 3
Savon Carnation 337
Savon Heliotrope 337
Savon Lilac 337
Savon Queen Regent 337
Savon Quo Vadis 337
Savon Rose Marechal Niel 337
Savoy Alpine Violet 337
Savoy Carnation 337
Savoy Jockey Club 337
Savoy Primrose 337
Sayf Syde, Sayf-Syde Soap Co., Cincinnati.
Sentinel 340
Sentry 340
Snow Violet 3
Solos Laundry, Nelson Mfg. Co., Iowa City, Iowa.
Sorosis 340
Stainoff, D. M. Steward Chattanooga.
Stainilgo, Kendall-Davis Co, Boston, Mass.
Star Mottled 2
Star Tar 286
Sneeess Scouring Sand Soap Tacony Soap Co., Phil'a
Superior Transparent Glycerine 3
Sweet Blossom 2

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Position Wanted: By first class oil and soap chemist, expert in refining cottonseed oils and manufacture of all kinds of soaps. Would like to correspond with parties who are looking for such a man. Am ready to make change July 1st; have been in the business over 30 years, am in good health and strictly sober, would take interest in suitable concern. A good healthy location preferred. Very best of references. Address: W. F. N. care of American Soap Journal.

Situation Wanted: By an experienced soapmaker and superintendent now in sole charge of a large plant. At liberty after May 1st. Would like to communicate with those wanting a high-class man.

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"Soap Maker wanted, must possess good experience of best quality Toilet, Shaving and Household Soaps, good position for suitable man. Box 30, care of American Soap Journal."

Wanted:—A scientific soapmaker, competent to take entire charge of manufacture of a cold boiled laundry soap. New factory. Give references, wages and when could come. Address. MANUFACTURER, care of American Soap Journal, Milwaukee, Wis.

FOR SALE.

For Sale at a Bargain two high pressure copper digesters in good condition, 4 ft. in diameter and 18 ft. long. Apply to The Will & Baumer Co., Syracuse, N. Y.

Soap Factory For Sale: Situated in the city of Reading, Pa. the only soap factory in the city, with a population of 100,000, a large Railroad Center, large manufacturing interests. The factory is a 3 story brick, 60 ft. front by 40 ft. deep; lot 110 on which is erected an iron stable for 3 horses. Plenty of raw material to draw from. Further particulars given on application to F. K. Miller, 1438 Perkiomen Ave., Reading, Pennsylvania.

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This is a good opportunity for any one starting in the business, for branch or change of location. Will sell cheap for cash, if sold at once, or give liberal terms. Address: E. V. care of American Soap Journal.

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We buy empty hard-wood barrels of any description. KRELL BROTHERS, 1612 Cherry Street, Toledo, Ohio.

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Partner Wanted: Practical Soap Man, Salesman or Superintendent, may secnre interest in factory in fine location with good business. Investment required, $5,000 to $10,000. Full information given to parties meaning business. Address: General Finance Company, Davenport, Iowa.

The American Soap Journal & Manufacturing Chemist.

A MONTHLY JOURNAL OF THE MANUFACTURING CHEMICAL INDUSTRIES.

DR. HENRY GATHMANN, PUBLISHER. 2707 North Ave, Milwaukee. MILWAUKEE, WIS., June 1, 1904. VOL. XIV. No. 10.

U. S. PATENT OFFICE JUN 2 1904

THE

AMERICAN SOAP JOURNAL

AND

MANUFACTURING CHEMIST.

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OFFICE OF PUBLICATION:

2707 NORTH AVENUE, MILWAUKEE, WIS., U. S. A.

The AMERICAN SOAP JOURNAL AND MANUFACTURING CHEMIST is devoted to the interests of all manufacturing industries of a chemical character, and is an absolutely independent publication. It is the only newspaper of its kind in America and has also a large foreign circulation.

For Subscription and Advertising rates see above.

Communications on industrial subjects, news items, and any information suitable for printing in these columns, are solicited and will have due attention.

Readers in search of machinery, supplies etc., not advertised in these columns, are invited to write us and we shall endeavor to supply the information.

Address all communications to

DR. HENRY GATHMANN, Publisher,
2707 NORTH AVENUE,
MILWAUKEE, WIS., U. S. A.

The editor and publisher of the AMERICAN SOAP JOURNAL has been duly elected a member of the ASSOCIATION OF SOAPMAKERS AND PERFUMERS, with headquarters at Munich, Germany.

We do not like to reprint in our own columns all the nice things which the association said about us on the occasion; but we are proud of the distinction!

The firm of A. M. Shukow of St. Petersburg, Russia, has an order from the empress of Russia to make 300,000 cakes of soap, bearing the words: "From Her Majesty, Empress Alexandra Feodorowna," and intended to be presented to the Russian soldiers doing duty in the far East. The firm named will donate 60,000 additional cakes for the same purpose.

As the firm of A. M. Shukow was a subscriber for the AMERICAN SOAP JOURNAL even before the representative member of the firm shook hands with us over the World's Fair at Chicago in 1893, we rather expect that after the three-hundred-thousand cakes of the above-mentioned soap will have found their due destination, there will be a cake left for our collection of specialties in the soap line.

A soap manufacturer who (in a recent issue of this Journal) advertised for a soapmaker, had a number of replies from applicants sent him and he soon found a man who will probably fill the position well. One of the answers received by this advertiser was returned to us with a request for some information regarding the nature of the offer. We confess that we can furnish no definite explanation. The letter in question reads:

Mr. —— ——, care of American Soap Journal.

Dear Sir: In reply to your ad, we beg to say we have a man registered with us, familiar with soap, and would like to recommend him to you, provided you have not filled the position. We have looked up his references carefully and believe him to be fully competent. There is no charge to you in the matter. Awaiting your reply, we are, yours truly,

Business Opportunity Co., New York City.

* * *

All we can think of saying in this connection is that we are not acquainted with the "Business Opportunity Co." of New York City. If they offer to supply a soapmaker free of charge to any manufacturer, they must

either be a benevolent institution or charge soapmakers for finding (or trying to find them) positions. We presume the latter is the case, for their letter has the imprint: "Position and Investment Brokers." But when it comes to a definite reply, we neither know the Business Opportunity Co. nor do we know where the soapmaker came from who registered with the same, and who in this round-about way is brought forward to the attention of an advertiser in the Soap Journal.

In our humble opinion a really competent soapmaker knows enough to write an advertiser in the SOAP JOURNAL without having to register with an employment agency first.

One succinct idea of how we ought to edit this paper, as expressed in sections by more than one reader at various times, may be presented diagramatically as follows:

First advice: "I don't suppose any one cares much for your scientific articles: why don't you print more news items instead?"

A few months later: "If you should hear certain rumors about difficulties among our partners, please do not print them, as they are entirely private affairs of our own."

A few months later: "We received your inquiry as to whether your report is correct that —— —— ——, but we must decline to make a statement for publication in your paper."

A few months later the same correspondent brings a suit against a competitor, has a fire, falls into a lye tank, and his horses win a prize at the State Fair; but not one of these items does he bring to our attention; an inquiry for details of an item that reached us indirectly is not favored by any reply at all, but—

A few months later: "Why don't you print more news items?"

Why, indeed?

"Die Moderne Parfuemerie" is the title of the latest work published on the manufacture of perfumes and cosmetics. It is a German work and in the German language. We call the attention of those in position to read a German book, to a more detailed description of said publication on another page of this paper.

If our information is correct, a strange experience has overtaken a firm of soap kettle manufacturers in Peru, Ind. It appears that Wm. Heppe & Sons, of Logansport, Ind., had four large tanks for their factory made at Peru recently. When the tanks were to be loaded on the train for shipment, it was found that they were too big for the cars, and it was necessary to roll them all the way from Peru to Logansport, a distance of eighteen miles. When they got there, the tanks were on the wrong side of the river, and were too large to go through the bridge. Then the men in charge attempted to float them across under the bridge, but they would not go that way, either. It was finally done by filling them partly full of water and floating them across. Then when the tanks were brought opposite the factory, the river bank was so steep that they could not be brought up it. That difficulty has not yet been surmounted and the tanks lie at the bottom of the bank.

The following is printed on the authority of a Pittsburg reporter:

Whether it is because of a scarcity of painters or because of the high price of material is not known, but a large number of buildings in the downtown district are being improved in appearance with water and soap. Scarcely a street can be passed but is seen two or more men perched on a scaffold supported by block and tackle, with buckets and a sponge washing the buildings.

Some of the buildings thus treated look like new, while others change the appearance to various shades. The painters claim that washing the exterior of a building is as expensive as painting. It requires the same amount of work and the alkali and the heated water costs as much as paint. The only possible saving in the method is the hiring of unskilled workmen for $1.50 a day instead of paying a painter $3.50.

Among the large and variegated number of questions on soapmaking which have reached us almost daily for many years now, we do not recall a single one quite as unusual as one received last month. It reads: "Where can machinery, for making toilet soaps by hand, be had?"

"Machinery for doing things by hand" is one of the few things we have not heard of before, and we came very near feeling that for once we were floored. On catching our second wind, however, we realize that our enquirer does not refer to a set of artificial hands at all, as we first thought. No, he evidently has read some ancient book on soapmaking and has come to feel that no soap is quite equal to one that has been "made by hand," in which procedure some artificial aid is nevertheless indicated. We write this before answering our enquirer: what we had better tell him is a problem still awaiting its solution.

From Our Correspondents.

A UNIQUE SOAP.

Newark, N. J., May 4, 1904.

Dr. Henry Gathmann.

Dear Doctor: Just to show what we are doing in this section of the country, I mail you this day under separate

cover a box of twelve cakes of Nottaul soap, and trust you will accept the same with my compliments.

In view of the assertion made time and time again that "all soaps are alike," I submit this soap to you, and I think you will agree after critical inspection, analysis and use of the same that I have a soap that looks and is different from all others. *HAS MERIT, and is an ideal toilet soap.* I am, with regards, yours, etc.,

LEO S. SAMUEL.

* * *

[The cakes of soap sent with the above are certainly quite out of the ordinary. As the name "Nottaul Soap" implies, it is Not All Soap, but each cake consists of two sections of soap (one a white soap, the other green), holding between them a layer of face cream, the whole giving each cake somewhat the appearance of a "layer cake." The cakes are delicately perfumed: the soap itself of fine quality and appearance, and the novelty is very striking. We take it that these samples are the culmination of a number of patents on special soap cakes, which Mr. Samuel has secured at various times in recent years. It would seem that this soap should meet with a prompt and favorable reception.—Editor A. S. J.]

BINDERS FOR SOAP JOURNAL.

American Soap Journal.

Gentlemen: Please advise me if you have a binder or some suitable arrangement for keeping copies of the "Journal" together. Yours, etc.

* * *

[We formerly furnished such binders on request, but as each one lasts a life-time, nearly all readers desiring them have been supplied long ago, so that when our last stock was used up we did not order any more. However, large stationers and the news companies furnish cheap temporary binders for monthly magazines of all sizes.—Editor A. S. J.]

IL EST AVEC LE CIEL DES ACCOMMODEMENTS!

(Moliere's Immortal Tartuffe.)

Editor American Soap Journal:

I have recently announced that I would soon reply to Prof. Chas. H. Herty's letter to you and published in your issue of February last, page 146 and to which I respectfully refer your readers so that my reply can be clearly understood; I also refer them to page 144 of the same issue. Prof. Herty complains that "I have made efforts to discredit his connection with the cup and gutter system of turpentining." I respectfully refute all of this, because I have always admitted "his connection with the system," but I admit that I have sought to discredit the assertion he makes "originated by him" and shall seek to discredit it until he has publicly, himself, given credit to the "originator" the real, the only "originator of the *whole* system" and that is, "Hugues."

Prof. Herty has originated nothing of the system proper and he admits that. The originator of the *"idea"* is Hugues; The originator of the pot, is Hugues; The originator of the "gutters" is Hugues; The originator of the "aim" to be accomplished by the "idea," the "appliances," constituting the whole system is Hugues and that "aim" has been accomplished in France for the last 42 or 44 years!

It is a strange statement to make "that the French system of "chipping" is impracticable in America" after having found "practicable" the "idea" the "aim" and the "appliances." But there was the "negro in the woodpile." The "negro in the woodpile" was "a patent" and the patent came. Prof. Herty wanted a Patent for what he called "his system" and, one day, I read in the "Times Union" that Prof. Herty HAD *SUCCEEDED* IN OBTAINING A PATENT FOR *HIS* SYSTEM OF TURPENTINING.—That word "succeeded" is a *"world"* in itself.

It is true that it has been "officially" announced that Prof. Herty will charge no "royalty" "as long as he is connected with the U. S. Dept. of Agriculture and I go so far as to say that it is that declaration that has kept back many Turpentine Operators from using the Cup system apprehending, and this reasonably, that Prof. Herty, sooner or later will sever his connection with said Dept. and that the "royalty" will have to be paid.

I have for my part said that freely, even to his closest friends, and I have said and repeat it here, that not for one minute has ever Prof. Herty worked to another end than the end of advancing *his interests*, and the "taking" of a Patent for a system originated by another and applied by him without the least improvement on any of the "elements" which constitute the whole of the idea, aim, results, and appliances, justify me in saying so. And the "granting" of such a Patent, to a man who is in the employ of the nation, and is paid with the nation's money, is a wrong by itself; it is a wrong also because that "system" *is not patentable* or at *least should not be patentable* and the reading of the "Patent," such as it has been granted, justifies the heading of this article which can be translated thus: "There are accommodations with the Patent Office."

The "aristocracizing" of a common, vulgar clay pot into a Cup does not constitute an *improvement.* The "chipping" by left-handed, right-footed men, or by men who have one eye looking to the ceiling while the other eye looks at the cellar, does not constitute an *improve-*

ment, on the contrary, I call that useless complieations. The fact that the gum is made to run into the pot at the end of a gutter instead of the middle of it, curved for the purpose, does not constitute an *improvement.* The faet of making the arrangement of the appliances looking "kind of dudish" instead of looking "kind" of a "rudish common sense" does not constitute an *improvement.* Hugues, over 42 years ago, coneeived an "idea" with an "aim." To exeeute the one and to attain the other, "applianees" were needed. He invented a clay pot to reeeive the gum from the tree and zine gutters to carry the gum into the pot: sueeess crowned the effort; the Hugues system was established and used ever since with the same results.

Some 35 years ago, a Frenchman living *here* used that very system in gathering pine gum and gave eredit to the originator for the invention. Some 13 years ago, having read in the American Soap Journal an artiele on Naval Stores, revealing the disastrous ways of gathering the gum in the double sense of wasting the gum and ruining the trees, I eontributed an artiele in the Ameriean Soap Journal with illustrations of the tree, pot, gutters and gum and a graphie explanation of the *whole system* and of the distillation by steam. In 1892 the U. S. Dept. of Agriculture, having known of this, took the matter up and since then, according to Prof. Herty himself, numerous patents for "mutilated imitations" of Hugues' system were applied for and granted. The illustration and explanation of the Hugues' system, such as they were, published in your paper, have been published in other papers and this to the full knowledge of Prof. Herty, and yet he also applied for a patent and *succeeded* to have it granted, but I dare predict that, should any one refuse to pay a "royalty" for the use of that system, if such was eharged, and would let himself be prosecuted and make a test case of it, the Patent could not stand; it would be revoked.

I have not the least ill feeling against Prof. Herty, nor have I anything to gain through the fight I make for the sake of right and justice; still, I might be excusable to resent proceedings whieh have proved to be a conspiracy from Prof. Herty's supporters against my efforts to do something for the benefit of the greatest number. That conspiracy has even caused me pecuniary losses and deprived thousands of the opportunity of seeing the operation of the Hugues system of gathering the gum; the operation of eliminating the impurities from the gum before distillation and the operation of distilling said gum, and to thus realize the advantages of these precautions in producing a larger percentage and perfect products and this was in 1901 and at the very time when Prof. Herty was *only experimenting.* The Florida and Georgia papers had given out what Prof. Herty was doing and predieted a success of immense magnitude and towards the summer of that year the announeement was made that Prof. Herty would attend the 1st Convention which was to be held in Jacksonville by the Turpentine Operators' Association and that he was to deliver a lecture on "his system" of turpentining; he did so, but he did not meet with the appreciation which he deserved, owing to the faet, probably, that his experiment had not yet reached a eonvineing stage, and perhaps also to the unwillingness of the T. O. to mend their ways.

But to eome baek to that eonspiracy against me. I must state that some two weeks before the holding of the convention I decided to write a paper which I intended to read at that eonvention and as I needed some information relating to reliable statisties and to obtain them, I wrote some questions which I sent to the Editor of the "Fla. Times Union," requesting the reply to be published in the column "Questions and Answers" whieh is one of the features of that paper. I also saw the editor himself, and explaining the objeet of my queries, I asked him if he could publish the "answer" on the following Sunday; he told me yes, but neither the questions nor the answers were published. I met the editor some 3 or 4 days later and on asking him whether I could depend on his promise or not, he replied yes; you can. But, again no publication and no reference to my queries. About 4 or 5 days before the holding of the convention I met the editor again and as I expressed my surprise at having kept silent in spite of his promise, he told me that he was going to attend to that at once, but he did not, and so, I could not have my paper ready in time nor to this day have I ever reeeived the reply promised three times. He is a great admirer of Prof. Herty, so the inference is obvious.

Our "State Fair" was to be held two or three months later and upon pressing requests from the Direetor, Major Healey, I had consented to make an exhibit of my line of perfumes, whieh exhibit was to be sent, at the close of the Fair, to the Charleston, S. C., exposition. They thought so much of my exhibit that when the diagram of the plan of the grounds was ready, I was invited to select my space the first of all other exhibitors, which was done. About a week before the opening of the Fair, I announced to the managers that I was going to exhibit the Hugues system of turpentining with all the appliances and even a small saplin upon which the applianees would be placed; also that I was to show the gum with the impurities; the proeess of eliminating them and the distillations of the purified gum, so that the public could see and appreeiate the advantages of that system; I was told: "go ahead." Four days before the opening I had the saplin in plaee and all in good

shape to receive the fixtures in which I was to put my perfumes, &c. After having arranged with the painter for a sign, I did not feel quite sure of the measurement so I went to the grounds on the next day and you may perhaps judge of my surprise when, at the space allotted to me more than 3 months back, and which bore my name on the previous day, I read "Manon" (Manon is a candy maker). I looked at the next space and the next and the next, but no space for Moulié was to be seen. I hunted up the officials and the director, but none seemed to know anything about that change until, pressed by me for a categoric reply, the director told me that my space had been sold to "Manon" by some kind of misunderstanding, but added he, you can suit yourself yonder on the back of the other exhibits, etc., etc. Of course they very well knew that I would not take a back space in any case and that I would withdraw, simply and totally. It is just what had been planned so that no interference with Prof. Herty's work could take place; this caused me a loss of about $75.00. And when in 1902, the next convention of the Turpentine Operators was held, Prof. Herty had the credit of the Hugues system, all by himself. You know how I cartooned and criticized: how I claimed the credit of the system for Hugues; you have read the controversy published in the Times Union at that time in which it appears. I had the best; you have even read the "modest disclaim" of Prof. Herty of the discovery of the cup and other appliances, &c., and yet, shortly after that "disclaim" we were told that Prof. Herty had "succeeded" in obtaining a Patent for a system which he acknowledged, was originated in France by Hugues and so I close in repeating:

"Il est avec le ciel des accommodements!

Yours truly,

E. MOULIE.

Jacksonville, Fla., April 26, 1904.

[This letter was received a month ago, as shown by its date, but owing to the exigencies of space required, could not then be printed. Editor A. S. J.]

Siftings.

English Rosin Soap.—(Abstracted from an article by G. Lutz, in Seifensieder-Zeitung): Soaps made from mixed fats and about 15% rosin have to a considerable extent taken the place (in England as well as on the continent) of the old, difficultly soluble curd soaps, and of the so popular tallow-rosin soaps (pale soaps) with 25% rosin.

The ready solubility and quick lathering of such a soap, affording a relatively high washing power, even in cold water, together with the immense advertising of the Sunlight soap, made this product extremely popular with the English consumer. Its success prompted other manufacturers to make similar soaps, which, under many names, have also become very popular.

Following is a description of the manufacture of such a soap as conducted in one of the larger English factories. The kettles employed are cylindrical, 16 feet in diameter and 19 feet high, and provided with three concentric steam coils for open steam of three to four atmospheres. With a view to the recovery of glycerine, only lyes of 20-22° B. are used. The stock consists of

14,000 lbs. tallow,
14,000 lbs. cotton oil,
14,000 lbs. cocoanut oil,
5,600 lbs. rosin (½ W. W., ½ W. G.).

The melted tallow and the cotton oil are run (or pumped) into the kettle, steam is turned on, and 20° lye is run in at the same time, so that when, after two or three hours, the stock is all in the kettle, there is also a good combination between it and the lye. To prevent thickening (bunching), about 2% of salt is added as soon as the stock and lye combine. Enough lye is then added to give the soap a slightly sharp taste, and then it is separated by means of about 2,400 lbs. of salt. Next the rosin is added and enough steam is turned on to keep the soap continually in motion and to prevent the rosin from sticking to the bottom. After about three hours of boiling the rosin will be dissolved and with this the first day's boiling is finished. Next morning the waste lye is run off to the glycerine department and will be absolutely free from alkali. Next 6,000 lbs of 20° lye are gradually run into the kettle, boiled well through, and then the cocoanut oil is added while continuing the steam briskly; from time to time some salt is added to prevent the soap from closing too much and frothing. At the same time, while steadily boiling, about 14,000 lbs. of 20° lye are gradually run in, in such a manner that when all the cocoanut oil is in the kettle, the soap is slightly weak, but has absorbed all of the lye. Now follows about half an hour's boiling in order to fully combine the alkali and then the soap is grained with salt. During the afternoon the waste lye is run off; it also is free from caustic alkali and can be used for the recovery of the glycerine.

Steam is again turned on and 20° lye is carefully added, in small quantities at a time, until the soap is slightly open; boiling is then continued for several hours and after that enough lye is added in several successive amounts to separate the soap entirely and form a clear lye.

Next morning the waste lye is run off; it is very alkaline and is saved for use in killing fat for lower grade soaps.

Steam is now turned on (and, if desired, scraps and nigre from last boil are added. These will be melted after boiling for about two hours). Enough water is

added now to close the soap so that a sample will slide off a hot paddle in a continuous mass. At this point there is added 2 lbs. of chlorophyll, dissolved previously in hot soap solution, and when this is evenly distributed through the soap, the kettle contents are left to themselves for three days. The object of the chlorophyll is to counteract the color of the rosin.

After a rest of three days there results a soap containing about 0-6 to 0-7% of free alkali; if left in this state it would sweat markedly and would not be of that degree of neutrality demanded of a good soap. To obviate this, a process of neutralization by means of cocoanut oil is the next step. For this purpose a certain quantity of melted cocoanut oil is added to the soap in the cruteher just before framing. The frames are of a size to take in 1,400 lbs of soap. It is best to calculate the necessary quantity of cocoanut oil on the basis of the free alkali present; but where there are no facilities for nice calculations, it may suffice to use 2 lbs. of cocoanut oil for each 100 lbs. of soap; more than 3 lbs. will rarely be needed.

Seed Oils in the United States.

(From a Report by the Department of Agriculture.)

The United States has, within the past quarter century, become by far the heaviest producer of oleaginous seeds in the world. This has been wholly due to the utilization of the cotton seed erop and the expansion of flaxseed cultivation. Previous to these developments little attention was paid in this country to this elass of agriculture. None of that great variety of purely oil-yielding seeds, the oils of which are of well known edible and industrial importance in many foreign eountries, was indigenous to the United States; and, notwithstanding the diversity of tastes and customs introduced into this country by a heterogenous immigration, little or no effort was made to transplant them for their oil-yielding properties. In faet, it is solely due to the fact that some of the oleaginous seed plants also yield valuable fibers that their eultivation was originally undertaken in this country. Textile materials being a prime neeessity of civilized people, the flax plant was one of the first agricultural products introduced into the American colonies. The eotton plant is believed to be indigenous to the New as well as to the Old World. With the exception of the castor beans, the culture of which is a specialized industry in a few Western states, eotton and flax are the only oleaginous seed plants that have ever been utilized to a notable extent in the United States for oil-making purposes. Oil has been manufactured in recent years, it is true, from corn, but only as a by-product of the glueose industry. Hemp, whieh is raised extensively in Russia for the oil from its seed, and peanuts, large quantities of which are imported into France from Senegal and the East Indies for manufacture into oil, are also raised in the United States, but not because of their oleaginous properties! and the small esteem in which the like properties of flax and cotton were originally held is evidenced by the fact that for two and a half eenturies after the settlement of this country flax was eultivated chiefly and eotton exclusively for the value of the fiber. It is only within the past half century that, by reason of an economic revolution almost unique in an age noted for the utilization of waste, the once most valued part of the flax plant has degenerated in this country into a waste product, and the seed, formerly a secondary eonsideration, has become the sole object of eultivation. Within the same period, too, the rapidly increasing cotton seed crop, previously only a troublesome waste produet, has been made available as the greatest single resouree for oleaginous seed in the world.

ANIMAL FATS AND VEGETABLE OILS.

The cultivation of sunflower seed, colza, poppy seed, sesamum, ravison, mustard seed, and many other exclusively oil-yielding seeds is a factor of considerable importance in the rural economy of many foreign countries. That none of these exclusively oil-yielding seeds has ever been cultivated in the United States for oil-making purposes has been due primarily to a lack of demand for their products. A distinetive characteristic of the American people, though modified in recent years, has been the use of animal fats, both in domestic and in industrial life, for many purposes for which the inhabitants of other countries largely employ vegetable oils. For most industrial purposes, likewise, animal fats have been utilized to a large extent in the United States when for the same purposes vegetable oils were ehiefly used abroad. Until the discovery of petroleum, the tallow candle and animal oils furnished an illuminating power in this country that in older ones was, and to some extent still is, supplied by colza oil and diverse other oils of vegetable origin. For lubricating purposes also animal fats have been extensively used in the earlier history of the United States when for like purposes abroad the demand has been for rape seed oil or other vegetable oils. In the manufacture of soap, wherein large quantities and many varieties of vegetable oils have always been utilized abroad, grease has been extensively used in the United States, especially in the home-made product of the farm.

FLAXSEED CULTIVATION IN THE UNITED STATES.

As late as 1860 the quantity of linseed oil manufactured from seed grown in the United States did not much, if at all, exceed 1,000,000 gallons a year; and, since the value of the oleaginous properties of the cotton seed erop was then practically unrecognized, this quantity closely represents the total output at that date of all oil made from home-grown oleaginous seed. The use

in this country of the products of oil-yielding seeds was at that time largely confined to linseed oil, valuable for its use in paint and varnish. But the domestic output of this product was entirely inadequate to the demand, and the imports of oil and seed, expressed together in terms of oil, amounted to about 6,000,000 gallons. Imports of other fixed or expressed oils, including rape seed, hemp seed, cocoanut and palm oil, amounted to less than 2,000,000 gallons. The domestic consumption, therefore, of all kinds of this class amounted in 1860 to less than 9,000,000 gallons. The marvelous advance that has been made in the production of oleaginous seeds and in the consumption of their oils in the United States since that date is illustrated by the fact that at the present time there is annually manufactured from the domestic crops of flaxseed and cotton seed a product of from 160,000,000 to 170,000,000 gallons of oil, three-fourths of which probably enters into home consumption.

The development of flaxseed cultivation on an important scale in the United States dates from the cessation of the Civil war. In the activity of the westward movement of population, incident to the disbandment of the military forces, flaxseed culture, specialized and limited in territorial extent, moved with the tide of progress gradually westward and northwestward from the Ohio into the territory then known as the West and Northwest. Virgin soil seemed to be essential to its profitable cultivation. In the wake of agricultural expansion followed another economic movement, that of industrial enterprise, the course of which was marked by the building of homes and factories, the equipment of railways, and the growth of towns and cities—a movement that gave great impetus to flaxseed production in that it increased enormously the demand for paint, and hence for linseed oil, the principal object of flaxseed cultivation. The effect was immediately apparent. The flaxseed crop, which by 1869 had already increased to 1,730,000 bushels, was more than quadrupled in the next ten years. In 1879 it amounted to 7,170,000 bushels, and upward of 90 per cent of the crop was produced in the western states, manufactured by Western mills, and consumed in territory west of the Alleghenies. There was little or no surplus, and the markets of the East were chiefly supplied by imports of flaxseed from British India. It was not until 1891, however, that the important point was reached in the history of the crop when domestic supply overtook demand. Regular foreign imports to Eastern mills after that date ceased, and the United States took rank among exporting nations. Meanwhile the domestic demand for linseed oil had greatly increased, but the domestic production of flaxseed more than kept pace with this increased demand. The crop of 1903 amounted to 27,300,000 bushels, or 764,400 tons, and, notwithstanding the fact that the average exports of the previous five years had amounted to upward of 3,000,000 bushels annually, this crop came upon markets heavily overloaded with the surplus of the two preceeding years. The industrial demand for flaxseed in the United States is practically limited to the domestic demand for oil, the export trade in the manufactured product being of small proportion. Potentially the 1903 crop represents (after deducting 1,500,000 bushels for next year's seeding) 64,450,000 gallons of oil, or fully 15,000,000 gallons more than the country's requirements. The quantity actually manufactured each year does not exceed 50,000,000 gallons.

UNITED STATES AS A PRODUCER OF OLEAGINOUS SEEDS.

The position of the United States in the first rank as a producer of oleaginous seeds, however, is principally due to the utilization of the cotton seed crop, and is the result of industrial rather than agricultural development. From the beginning of cotton cultivation in this country cotton seed had been in weight a relatively important but in value a worthless product of the cotton belt. Constituting in weight two-thirds of the seed cotton as picked from the boll, each annual increase in valuable cotton lint resulted in a double increase of worthless cotton seed. And a few years previous to the Civil war something like 2,000,000 tons of this useless and cumbersome product was a result of each year's harvest. Beyond the small quantities used for cattle feeding and fertilizing, there was probably little thought, less prospect, of its profitable utilization. The economic field that it was afterward to share as a cooking oil and in the manufacture of soap was completely filled in the one case by lard and in the other by other greases. Moreover, the building up of an export trade was debarred by the liability of the seed to heat in transportation. Cotton seed oil was then manufactured in Europe from seed imported from Egypt; and a few sporadic attempts, probably based on the hope of an export trade in cotton seed oil, were made to establish the industry in this country. The Civil war checked whatever chance there might have been of success.

Within a few years after the cessation of hostilities cotton production regained the ground lost during the war and the utilization of the enormous waste represented by the seed became a subject of renewed interest. With the prospect of millions of tons of raw material produced without the cultivation of a single additional acre of land, without the employment of additional labor, or the investment of additional capital over and above that required for the production of the staple, cotton presented an alluring field for exploitation. A few mills were erected late in the sixties, equipped with hydraulic presses identical with those then in common use in the North for the expression of oil from flaxseed. Probably the utilization of waste was the most active

principle underlying the early experiments. Contrary to what had been the case with linseed oil, no important domestic demand pre-existed for the cotton seed product. Unadapted to general illuminating and lubricating purposes, deficient in the drying properties essential to its use in paint, its edible properties unknown, its sphere of usefulness seemed limited. Interest became centered in the export trade. The foreign demand increased with each successive year, and soon became the chief support of the new industry. In 1879-80 the quantity of cotton seed oil manufactured in the United States had increased to about 9,000,000 gallons; and the importance of the export trade was apparent in the fact that almost 7,000,000 gallons were shipped abroad against a little over 2,000,000 gallons consumed at home

In the following year the discovery was made that cotton seed oil mixed with certain animal fats made an acceptable and valuable substitute for lard. This gave an immediate impetus to the industry and eventually resulted in making it one of the most important industries of the Southern states. A domestic demand sprang up that absorbed practically the entire output of the then existing mills, and foreign trade, as a result of the active domestic competition, dwindled to insignificant proportions. In 1881-82 the output of cotton seed oil increased to about 12,000,000, and in 1882-83 to about 15,000,000 gallons. Of these quantities, 11,000,000 and nearly 15,000,000 gallons respectively were taken by the home trade. The combined exports of the two years amounted to only 1,129,160 gallons. From the date of this discovery began a period of activity in this industry that has continued almost without abatement up to the present day. New mills were constructed year after year throughout the South, until they now number upward of 600. The quantity of cotton seed utilized, which, previous to 1881, had never amounted to one-tenth of the total crop, has increased until fully 60 per cent of the average crop is now converted into valuable products; this, too, notwithstanding the fact that the production of cotton seed has meanwhile increased in about the same proportions. New uses found from time to time for cotton seed oil have given additional stimulus to both foreign and domestic demand. A few years after the decline in the export trade in 1882 it was restored to its old proportions. Meanwhile the domestic trade, primarily as a result of the demand from packing houses, was increasing by leaps and bounds. By 1893-94 exports had increased to 15,000,000 gallons; the domestic demand in the same year absorbed about 40,000,000 gallons.

Between 1894-95 and 1902-03 the production of cotton seed oil in the United States was doubled. In the former year arose a greatly increased demand for this product in Europe. In 1898-99 it culminated in exports of upward of 50,000,000 gallons, domestic demand in the meantime averaging about 40,000,000 gallons. This remarkable increase in the foreign trade attracted to the industry new capital and enterprise and resulted in a period of the greatest activity in the erection of mills known in its history. Since 1898-99 exports have declined irregularly, and in the fiscal year 1902-03 they amounted to only 35,642,994 gallons. But the manufacture of oil has increased steadily and is estimated to have amounted in 1902-03 to a total of from 110,000,000 to 115,000,000 gallons. Of this enormous output, the domestic demand absorbed from 75,000,000 to 80,000,000 gallons.

The production of flaxseed and cotton seed—the two crops practically constituting the oleaginous seed crop of the United States—now aggregates annually upward of 5,500,000 tons. It is estimated that with every 500-pound bale of cotton picked there is gathered one-half ton of seed, and hence a cotton crop of 10,000,000 bales indicates a production of 5,000,000 tons of cotton seed. The average annual production of flaxseed for the past five years has been about 672,000 tons. A 10,000,000 bale cotton crop and an average production of flaxseed therefore result in an output of 5,672,000 tons of oleaginous seed.

Although statistics upon the production of the many varieties of oleaginous seeds in the principal producing countries are incomplete, there is no doubt that the production of the United States exceeds the combined crops of any other two countries in the world. It is true that not all of the United States crops is utilized for oil-making purposes. Probably not over 60 per cent of the cotton seed crop finds its way to the oil mills, and of late years there has been an overproduction of flaxseed. But, assuming that 3,000,000 tons of cotton seed are now annually converted into oil, and, putting the average quantity of flaxseed crushed annually during the past five years at 500,000 tons, the total crush of these seeds may be conservatively estimated at 3,500,000 tons. Whether considered separately or collectively, these figures indicate that the United States stands first among all countries as a manufacturer as well as a producer of oleaginous seeds.

The Chemical Factor in Human Progress.

(Continued.)

For a number of years chemists have been laboring to produce substances and study their properties. In this way a vast number of compounds have been produced, and the list is now yearly added to at a rate that makes one's head ache. The chemist interests himself chiefly with their chemical and physical properties, and as to their proper position in the particular classes to which they belong. Thousands and thousands of such substances have been created, or dis-

covered, by the chemist, and but a very small number of them have as yet been applied. The study of their physiological properties will afford work for a legion of physiologists. Take ether and chloroform as instances. How hard it is to imagine a time when anesthesia was unknown. Think of being unable to overcome pain! Of course the introduction of these agents met with opposition. Some said it was wrong to prevent pain, as others thought it a sin to use an umbrella because the rain was intended to wet us, or to insure one's life because it was flying in the face of Providence. But in time the clouds of ignorance were dispelled and the world came to know one of the greatest blessings that science has bestowed upon humanity. The pain and suffering that these agents have saved humanity is incalculable. Operations, which years ago would have been regarded as madness, are now, by their use, of common occurrence. There are thousands of substances whose physiological properties have not yet been tested. It may be that among all these substances we may find ones that will directly affect each function and organ in our bodies. Physicians have as yet but barely entered this field of physiological research; and unfortunately their labors are hampered in certain places by the attacks of the so-called Bestarians, who would not permit vivisection. Strange how little compunction these people seem to feel in allowing the results obtained by vivisection to be applied in the treatment of their own families when sick. The law of atonement is nowhere more strikingly exhibited than in scientific research. If certain diseases are to be controlled, their causes discovered, and stamped out, cats and dogs may have to be sacrificed. We may wish all of our friends, all the babies and all of the cats and dogs to live, but like many other things we would like to have, we may have to suffer disappointment. Perhaps, after all, the fair sex is responsible to some extent for the destruction of animals. Think of what an indiscriminate slaughter of birds is continually going on that our fair friends may be able to carry fragments of the remains on their heads.* Even if the tortures ascribed to vivisection existed, they would pale beside the horrors that follow the sportsman. The animals and birds dying in fevered agony of peritonitis and being eaten alive by ants and beetles are fully as heartrending as anything that has been ascribed to vivisection by the wildest imagination.

Look at the advance in our knowledge of the action of disinfectants. And here, again, but an absurdly small number of the vast array of substances at our disposal have been tried. Many diseases are communicated by a kind of seeds, spores or germs. If these seeds can be killed it is impossible for the disease to get a foothold. Just as when the seeds of a plant are killed they will not sprout. The following instance of what can be done in this direction is interesting.

Some years ago the whole city of Detroit was disinfected by Dr. Oscar W. Wight, health officer of that city. All the receiving basins, sewers, etc., were disinfected by copperas, and the atmosphere of the sewers was purified by hanging in the manholes iron pails filled with burning sulphur. In all, the amount of copperas used by officials and citizens was 280,000 pounds. The gaseous disinfection of the sewers requires about three tons of roll bimstone. The total expense for the complete disinfection of the sewers (75,000 pounds of copperas and 6,000 pounds of sulphur), was less than $1,300.

After the first disinfection of the city, there followed a great abatement of diphtheria, and an almost entire cessation of scarlet fever. The second experiment was followed by an almost complete cessation of diphtheria. Some years ago I kept the gutters of New Brunswick, N. J., disinfected with a solution of bromine, and obtained a marked improvement in them. These facts make one stop and ponder. If, then, instead of spending the money of a community in supporting inefficient officials, ward heelers and political quacks, a portion of it were expended in the systematic purification of the town, the death rate would be decreased; there would be fewer little graves to dig. But think of the astonishment of even a not unusually common council if asked to appropriate, several times a year, a sum of money to buy materials to throw into the sewers. Diphtheria, scarlet fever, and, for all we know, many other diseases, are the punishment of infractions of laws ordained for our benefit. Official cupidity, negligency and ignorance mean more than bankrupt towns, business depression, and loss of confidence. They mean broken hearts and bleak graves. The money received from political deals, or from the sale of a vote, is but poor recompense for the loss of a child. The increase in personal responsibility caused by the increase in scientific knowledge is a vast one. It will be the great lever of the future.

The time is fast coming when the good old-fashioned phrase, "dispensation of Providence," as so often used, will have to be replaced by the more easily understood but less pleasant, although entirely synonymous words, "the effect of ignorance," or "the punishment of incapacity," or again, "the result of neglect," or yet again, "the spew of dishonesty." In fact, the object lessons of Nature are so plain that a philosopher might think them to have been especially designed for the intelligence of an average politician. Take, for instance, the cases at Plymouth. The discharges of a typhoid patient were thrown into a brook, and the brook ran into the reservoir of the town. Soon there were 2,000 cases of

typhoid. About the same thing occurred in the village of Lausanne, Switzerland. Such are the object lessons of Nature.

As chemical knowledge advances and chemists analyze minerals and the substances found in plants and animals, determining their relations and properties, classification of many compounds becomes possible. Many substances, exclusive of those found in animals, have been produced by the chemists. Thus ordinary salt is the same substance, whether extracted from seawater or produced by mixing muriatic acid and soda. But the substances found in animals, that is in organized objects, while they were analyzed and their composition accurately determined, were supposed to owe their formation to the action of some mysterious vital power, usually called "vital force." It was assumed, with really no apparent reason than it had not yet been done, that it could not be possible to make an organic substance artificially. The animal by reason of its mysterious, inherent vital forces must do that.

There is a certain compound called urea which is formed in the animal system, and which in many ways is of extreme importance. It was described in 1773 by Rouelle, and determined in 1790 by Fourcroy and Vauquelin. In every way it was then considered as an organic substance par excellence. In 1828 the great master, Woehler, of Goettingen, made urea artificially by heating ammonium cyanate, and the vast field of organic chemistry was opened to investigators. In 1832 Liebig and Woehler published the results of their labors on benzoic acid and the oil of bitter almonds, letting in a flood of light upon the subject of chemical constitution. The great Berzelius in his excitement proposes to call the new radical "Pröin," from *Proi,* the beginning of the day. Since this time, the truly marvelous structure of organic chemistry has grown at a rate unequaled in the history of the development of any science. I wish there were some way of explaining organic chemistry to the general reader, for it is a wonderfully interesting subject. We can appreciate its results although unable in all cases to follow the methods by which they are obtained.

There have been so many remarkable victories achieved in the field of organic chemistry that it is hard to decide which to mention. Prominent among them are aniline colors. A more uninviting substance than coaltar is not often found, yet in the hands of the chemist it has yielded compounds which, by profound study and skillful manipulation, supply the world with colors surpassing in beauty anything produced by Nature. In a few years a great industry has sprung up, employing thousands of men and an enormous capital; and all this founded on a waste product which manufacturers were once at their wits' end to find means to dispose of.

And, then, to what an extent is the fair sex indebted to the humble chemist! We have given them the wonderful aniline colors, which would put Solomon in all his glory to shame, and compel the peacock to hide his head and his tail in bedazzled desuetude. We can make velvet out of cotton and sealskin out of silk. We can supply perfumes surpassing the distilled refinement of the spices of Araby. We can make artificial blushes, heart palpitations,* inflated rubber bosoms, and alabaster complexions. We can make imitation feathers, or whole birds if necessary, as well as all kinds of floral and animal remnants for personal decoration. We can change raven locks to tresses of glinting gold or vice versa. We can supply eyes of any shade of color, as well as any number or kind of teeth. In fact, the chemist is to the girl of the epoch what the lamp was to Aladdin—only more so.

Indeed, many of our so-called necessities of life are of quite recent introduction. Sugar, for instance, as late as A. D. 150 was prescribed by Galen as a medicine, and in 1455 was still a rarity. In 1775 all England consumed only 20,000,000 pounds in the course of the year against 20,000,000 hundred weight in 1885. And now comes the new sweet substance, saccharine, which is so sweet that a pinch of it will sweeten a barrel of water.

It is strange to note what a power may be exerted by a chemist working in some small and but little known laboratory. Graebe and Liebermann undertook the study of alizarine, the coloring matter of madder, and soon found out its chemical nature, and were able to produce it artificially from a substance found in coal tar. A manufacture was founded and madder growing is slowly but surely dying out. Lately Baeyer has untangled the complications of indigo blue, and it is now but a matter of time when indigo growing will cease to be an industry. Salicylic acid, formerly a rare and costly product, has become an article of commerce, through the labors of Kolbe, who showed how it could be made cheaply from carbolic acid. And now a nation can send its armies out to battle in a region where rheumatic complaints would cripple them and leave them helpless at the mercy of their foes, had they not this power at their control to subdue these diseases. It is true, the diplomat utilizes to their full worth the powers at his disposal, but it must not be overlooked that the chemist furnishes him with many of his most efficacious agents.

I could go on with a long list of triumphs in organic chemistry and show how much we are indebted to the labors of certain diligent investigators in this field. In

the matter of the processes of digestion our knowledge of organic chemistry has enabled us to make important progress in the last years. We are now able to produce many new and valuable forms of food, especially for children and invalids. Thousands of lives are saved every day by the use of chemical foods and the application of chemical discoveries.

Let us glance for a moment at iron and steel. If iron contains even very small amounts of certain substances, as phosphorus, for instance, it has but little value, for its properties are injured. In the last years a young English chemist of the name of Gilchrist Thomas discovered a method by which the phosphorus could be easily removed from iron. This appears to be a simple matter, yet how much it means. Immense deposits of iron ore which could not be used, because they contained phosphorus, became at once of value. The material wealth of the country was immensely increased. The uses of iron and the simplicity of its production was increased. It has been well said that this untitled, almost unknown young man,* has done as much or more for England than all her kings, queens and aristocracy put together have accomplished for her.

Washing Raw Wool.

The efficient washing or scouring of the raw wool is a subject of considerable interest to the spinner who wants to receive his raw material in such a condition as will enable him to spin his yarn with the minimum of trouble and of waste, and this desideratum is much facilitated by care being exercised in the preliminary stages of wool washing. The fleece, when clipped from the sheep, is naturally dirty, oily, and full of yolk—a yellowish oil or fatty substance secreted by the skin glands, which serves the purpose of a lubricant for the fiber, prevents its matting or felting together, and softens the wool at the same time. It, however, imparts a certain degree of adhesiveness that causes the wool to take up soil and other kinds of dirt from the ground while the sheep is pasturing.

All this dirt and yolk must be removed, and the question comes up in connection with the matter: Is it better to wash the sheep before shearing or not? Different opinions have been expressed on this point. Really the matter is one largely dependent on local circumstances. For instance, in regard to wool of this country, it is preferable, we think, to shear the sheep first, and to leave it to the professional wool washer to deal with it; probably the scouring will be more satisfactorily carried out, and the wool left in better condition for the spinner.

On the other hand, with Australian and American wools, it would be better to wash first, provided due care be taken, because if the wool is not scoured, changes may take place during transit, and the wool become stained and so rendered more difficult to bleach, while if any heating occurs, which is quite possible, the texture of the fiber may be damaged.

Then again, the dirt being removed, there must result a saving in freight between Australia or America and England, and the wool being in a better and more presentable condition the buyer is induced to give a little better price for it.

It is not advisable to wash the wool so much as to take out all the yolk—for then the wool is apt to become somewhat harsh and horny, particularly if the washing liquors are rather alkaline. Every endeavor should be made on the part of the wool washer to retain the soft feel and luster of the wool.

The wool washer wants to produce a clean and white wool, but he must be careful not to treat it in any way that will destroy its natural properties.

If the wool comes up harsh in feel and of a yellowish tinge, there is most decidedly something wrong somewhere. Generally if these effects occur, it may safely be put down to the presence of an excess of alkali, particularly of soda, and this will greatly depend on the kind of soap and alkali the wool washer uses.

The best soap is undoubtedly a potash soft soap, but there is a risk of this being adulterated with soda, for by using the latter alkali more water can be got into the soap without showing it. If alkali be added as well as soap, an excess would lead to this same defect.

Then again, if the temperature of the scouring bath is too high and soda be present, the defect is most likely to happen, for the action of alkali is very much intensified. It is always advisable to test the soap for its contents of water, fatty matter, and alkali, a not very difficult operation, but requiring care.

The quality of the water used in the washing is not without some influence on the success or otherwise of the operation. To obtain the best results, soft water must be used, but soft water is not always available, and hard water has often to be used.

When the wool washer is compelled by force of circumstances to use hard water, it is decidedly cheaper and more preferable to soften the water by means of a proper quantity of lime and soda rather than to use soap, for a certain amount of the latter must be neutralized and destroyed by the lime salts in the water before the remainder can exert any scouring effect. Many forms of water softening plant have been devised and are in use with excellent results, both as regards economy and better execution of the work for which the water is used.

Where a proper softening plant is not available, the addition of 4 pounds caustic soda to 100 gallons of water will soften the water and make it more satisfactory for washing wool.—*Textile Colorist.*

Our Customers.

"Most people imagine," said a druggist in the Chinese district of New York, "that a Chinaman uses very little medicine. That is not so; even a Chinaman must be sick some time or other; and when he is he spares no expense. He always gets the best."

"Still," said the skeptical one, "a Chinaman always prefers Chinese medicines, doesn't he?"

"Not necessarily. Some of them, of course, do use their own Celestial concoctions; but a large majority are contented with the ordinary American preparations. Probably they are governed by the smell of each article; they like fine perfumes, you know—that's why they buy so much toilet soap."

"Soap!" the skeptical one smiled audibly. "You can't convince me that your Chinamen use anything but laundry soap."

"That's where you are wrong—you and everybody else. Do you know that the Chinese buy more toilet soap than does the average American? And the very best kind, too—twenty-five cent cakes oftener than ten or five-cent ones. Sometimes they will pay several dollars for a box of fine perfumed soap and send it as a present to some relative in China."

The skeptical one tried another tack. "I suppose they prefer elegant and expensive perfumes also," he suggested.

"Quite right. They use perfumed water extensively in nursing rheumatism. Why, a Chinaman will use a whole bottle of Florida water in washing down a rheumatic limb. And the more expensive the perfume the better they like it."

Limited Liability Companies and The Oil Trade of To-Day.

A PRESENT DAY VIEW.

"What! not give us credit for a barrel of oil, and ours a limited company!"

"It is because yours is a limited company, sir, that we hesitate to give you credit."

The first speaker was the representative of a company which we will call the Universal Paint, Putty, and Oil Supply Association, Ltd. His gentlemanly tone and polite manner inspired confidence, yet the gentleman he addressed eyed him suspiciously.

"To judge from your appearance," continued the latter, with a courteous bow—he was the head of an old-established firm of oil merchants—"we should be safe to grant you *individually* unlimited credit, but our experience of limited companies is so unfavorable that we can only deal with you *collectively* on cash terms."

"You surprise me," replied the paint and putty supplier. "Our object in registering ourselves as a limited company was to command confidence; yet you say it excites your suspicion."

"Just so," was the frank rejoiner. "To us a limited company suggests limited means. When we deal with an ordinary customer we know from whom to expect payment, whom to sue, whose goods to seize, and whom to make bankrupt; but a limited company has a knack of dissolving into thin air. There is an indefinite vagueness about its assets, its preferred creditors, its mortgage bonds, and its other liabilities, that to take proceedings is often financial suicide. Ah! Mr. X., is that you? Step into my private room and I'll join you in a minute."

This commercial duologue to which I had unwittingly played the eavesdropper interested me much, so that when my friend joined me I was tempted to revert to the subject.

"Is it a fact," I asked, "that you view limited companies with such suspicion?"

"Certainly," was the prompt reply; "and I have good reason. During the past ten years we have lost three times as much by limited companies as by private customers. An ordinary customer, when in difficulties, will do his utmost to avoid bankruptcy. His friends and relations frequently come forward and a substantial composition or dividend is often paid. But with a limited company, its bones are hardly worth picking after the preferred creditors have been satisfied and the lawyers have gorged their fill. In fact, we view every limited company with suspicion unless its history is known to us. Many of them are, of course, perfectly sound—most of those, for instance, which have been formed for family reasons. The decease or retirement of a partner may necessitate the withdrawal of capital, unless means to retain it can be devised. In some cases the growth of a business will render its formation into a limited company desirable. A sound concern, crippled for want of capital, may in this way obtain means of extending and consolidating an increasing business."

"Surely," I remarked, "these are legitimate objects, and ought not to prejudice a company's credit."

"True, but these unfortunately are not always the real motives. Registration is not unfrequently resorted to solely to protect the personal effects of the parties concerned. I know companies which have traded almost entirely on credit—in other words, on the capital of others. We ourselves were only recently victimized by a company, which was actually promoted and registered for the sole purpose of fraud. It was literally a Long Firm, Ltd. Its *modus operandi* was as simple as it was effective. The conspirators, who were three in number, advertised in a daily paper intimating that a gentleman was prepared to finance a business requiring capital. They received a number of replies, from which two suiting their purpose were selected. These two were decay-

ing businesses, the proprietor in each case being elderly and easily induced to dispose of stock and good will at a price far above the real value. A small deposit was paid, and the vendors were informed that the business would be registered as limited liability companies, and that the balance of the purchase money would be secured to the vendors by mortgage bonds on the assets of the company, bearing interest at 6 per cent. The vendors were also induced by tempting fees to accept seats on the board, which, by the bye, never sat.

"In due course the two companies were registered, and operations commenced. Letters were dispatched in all directions asking for quotations and samples of various goods. After an artful interval these inquiries were followed by orders for goods of every description, from pig-iron to brown paper. We were favored with an order for ten barrels of oil. This," continued my friend, taking a letter from a pigeon-hole and handing it to me, "is the order."

It was typewritten on good paper, with the name of the company printed in bold capitals, in which the word "limited" figured prominently.

"The man who designed this," I observed, "deserved to succeed."

"But look at this," said my friend, taking another letter from the same receptacle. "It is the reply from the other bogus company to our inquiry with reference to the credit of the first."

The "get-up" of this letter was even better than the other, and "Contractors to the Admiralty, the War Office, and other Government Departments," was printed in bold type in the left-hand corner, also the telephone number and telegraphic address. It ran: "Replying to your inquiry, we give this company credit for £200. We believe that they are safe for a larger amount, but our transactions with them have not required credit beyond this amount."

"Would anyone reading that letter," asked my friend, "suspect collusion? Give them credit, it virtually says, for £200; but our limited knowledge of their financial position, although satisfactory does not warrant us in advising you to go further. Another reference which they gave us was that of a well-known firm in the city, from whom they had made a large purchase. For this purchase they promptly tendered a check in payment to inspire confidence. This transaction was a mere move in their game for reference purposes. This firm had known one of the vendors as a respectable man, and wrote us to this effect, adding that they understood that fresh capital had been introduced, and that they had recently had a business transaction which had gone through satisfactorily. We afterwards had the grim consolation of recognizing this firm among the victims. We, like others, sent the goods, which were received at one door, to be dispatched at another. For two or three weeks the game went merrily on, and the rogues might have escaped scot-free with their plunder had they not placed too much confidence in their articles of association. They persuaded themselves that as a limited company they could only be proceeded against in a civil court, a supposition that was shared by many of their victims. Indeed there is little doubt that they would have continued their depredations unchecked but for the public spirit of a prominent member of the oil trade. This gentleman called a meeting of creditors, or rather victims, of whom there were over sixty, and suggested criminal proceedings. The apathy of nearly all concerned was remarkable. Only twelve or fifteen attended the meeting, and these received the proposition in frigid silence. He informed them that a considerable sum would be required for the prosecution, and asked them to join him in guaranteeing the amount. There was a general murmur that it would be throwing good money after bad."

"Where were the police?" I inquired. "Was it not a case for the public prosecutor rather than for private action?"

"We applied to the police," replied my friend, "but they would not or could not take action unless a private prosecutor was forthcoming. We then approached the public prosecutor, and the best we could get from him was a promise to intervene if the evidence which we produced justified intervention. Our public-spirited friend told the meeting this; also that it was hardly fair to expect him to bring the rogues to justice at his own expense, and spend his time and energy in a prosecution which might not merely end in an acquittal but be followed by an action for damages for malicious prosecution. We realized that our friend, as a business man among business men, was making a fool of himself. But he appealed to our sense of business morality. These men, he argued, were dangerous to the community, and if we let them escape, emboldened by success, they would reappear to again fleece us. His eloquence induced a few of us to yield a half-hearted consent. A guarantee fund was opened, and he agreed to undertake the prosecution. A warrant was issued, and the three men were arrested, one foolishly drawing a revolver, an indiscretion that weighed heavily with the jury. Their defense was a denial of all criminal intent. The prosecution, they declared, was instituted vindictively by disappointed creditors, and the case was really one for a civil court."

"Excuse my interrupting you," I interposed, "but may I ask the nature of the charge preferred against them?"

"Conspiracy," replied my friend, "and it was suggested by a blurred letter in that letter you hold in your hand. You will notice that there is a flaw in the letter *'y,'* the tale of which is slightly bent."

I referred to the letter, and found this to be the case. The *y's* throughout the letter were all blurred.

"Now look at the reply received from the other company with reference to the credit of the first."

"What a coincidence!" I exclaimed. "The *y's* are identical. Why, it was written on the same typewriter!"

"Yes, and that was our case," remarked my friend. "The revolver satisfied the jury, and the typewriter convinced the judge. They were found guilty, and now the registered address of this limited liability company is a well-known convict establishment in the West of England. Are you surprised that we regard limited liability companies with suspicion?"

"No," I replied, "nor am I surprised that you sent away the universal supplier without his barrel of oil."

"I didn't," remarked my friend; "he satisfied me that his company was ably managed and financed, so I executed his order."

A fortnight later I met my friend on 'change.

"Have you heard about the Universal Paint, Putty and Oil Supply Association, Ltd.?" he asked.

"No. What about it?"

"It has gone into voluntary liquidation," he replied. "I have written off that barrel of oil as a bad debt."—Oil & Colourman's Journal.

The Ammonia Process For The Production of Soda.

It is forty years since the first Solvay factory was established in Belgium after overcoming many difficulties. It was by attempting to manufacture sesquicarbonate of ammonia that the reaction which produced soda was accidentally discovered. A patent was taken out in 1861, but when the process was about to be utilized practically, it was discovered that the same reaction had been previously patented by Turck-Dyar and Hemming. But in reality not one had been able to derive any advantage from it. Fresnel, the illustrious French optician, who had first made the discovery, was about to render it practical, when, after consulting the most eminent chemists of the period, he abandoned the idea. The Leblanc process was then firmly established.

Several efforts were made in Germany and England, but always without success. Muspratt, the great English manufacturer, sunk £40,000 in the effort. Grimes, Gossage, Dyar and Hehhing, Bowker and Deacon attempted to make use of the reaction industrially; the greatest obstacles that they met were the loss of ammonia and the imperfection of the mechanical apparatus, from which resulted, not the impossibility of manufacture, but of competing in price with the Leblanc soda.

In 1854 Schoelsing took out a patent in France, and later associated himself with Rolland. They established a factory at Puteaux, near Paris, with continuous apparatus, but notwithstanding large pecuniary outlay, the factory was obliged to close.

Must these persistent failures for nearly half a century be attributed to a constitutional defect? Many had become discouraged, but Solvay had the tenacity resulting from unshaken faith and new ideas. He was able to convince Pimz, and thus, notwithstanding the past experience, and the future that might not have seemed encouraging, Solvay & Co. founded their establishment in 1863 at Couillet, with the modest capital of 136,000 francs. This was destined forty years later to almost exclusively supply the entire world with soda.

In 1865 commenced the incessant struggle, the changes, the constant improvement of apparatus, the series of accidents incident to every new installation. In 1866 the factory produced 1,500 kilograms per day. In 1867 it distributed its first dividend, 5 per cent., and in 1869 it doubled its factory space. From that time the development was more rapid.

In 1872 an Englishman, L. Mond, who had treated the residues of the Leblanc soda, foresaw the future opening to this industry, and not wishing to see his factory abandoned, came to an understanding with Solvay, and established at Norwich, a factory on the Couillet model, opposite a Leblanc factory. From that time it was war without truce between the two processes.

During this period the Couillet estamlishment was gradually extended; in 1873 the sister factory at Dombasle was built, and the Leblanc process received a blow from which it could not recover. Born with the century, it was to die with the century by overproduction and by a gradual fall in the price. The moral of this short history is that, as the vital competition of organized beings assures the survival of the fittest, so in industry the successful manufacturer must survive his competitors. It was to be so in this case, because success rested on the fundamental fact that soda was obtained in the solid state by a reaction, cold, from the liquid solution furnished almost exclusively by nature, while the Leblanc method required from the outset sodium chloride in a solid state, in order to obtain carbonate of soda only in the liquid state, after reactions at a high temperature. Besides, our process was to become entirely continuous and mechanical, and to produce a precipitated soda, very pure, and more and more demanded in industry. To-day time has sealed the value of the industrial process with ammonia, but it seemed difficult at first to foresee this result.

Two factors have concurred in this success. The faith to which I have referred, which animated me and all my fellow-laborers, especially my revered brother, who shared my own confidence. We have worked without relaxation, constantly striving to increase our knowledge, and with unceasing courage. Industry is a perpetual battle, in which those who sleep will perish and those will succeed who struggle unremittingly, relying on thoroughly

rational prineiples. It is well to never abandon a good idea in which one has faith and confidence. The difficulty is often to distinguish clearly between the grain and the chaff. The man of pure science is sometimes too strict in his judgments. It was thus that Thenard discouraged Fresnel, and that Stas, the illustrious compatriot of Solvay, declared the process to be too delicate for practice. It is true that inventors frequently have the contrary defect, too much optimism.

The Iodine Value of Oils.

BY J. STEWART REMINGTON.

The above determination is perhaps one of the most important in the technieal examination of oils and fats, and though a good deal has from time to time been written on this subject, it is felt that no apology is neecssary in again returning to the question and bringing before the readers of this Journal the general principles underlying the theory and practice of this determination, as well as reviewing the various modifications of the process which have appeared in some of the scientifie journals.

Several methods have been devised for determining the iodine absorption of oils, viz., Huebl's, Wijs's and Waller's methods.

In the original method, devised by Huebl, the determination is based on the absorption of iodine of fats and oils in an alcoholie solution in the presence of mercuric chloride, and, in order to carry out the determination, the following reagents are required:

(1) Absolute alcohol.

(2) Pure chloroform.

(3) Potassium iodide solution. (This solution is made by dissolving one part of pure potassium iodide in ten parts of water, and should give no blue color when slightly aeidified, and starch paste is added to it.)

(4) A solution of sodium thiosulphate, made by dissolving 25 grams of pure sodium thiosulphate in distilled water and made up to one litre (1,000c.c.).

(5) A solution of iodine, made by dissolving 25 grams of resublimed iodine in 500 c.c. of absolute alcohol.

(6) A solution of mercuric chloride made by dissolving 30 grams of the salt in 500 c.c. of absolutel alcohol.

(7) Starch paste, which is best made by grinding 1 gram of starch with 1.0 c.c. water in a mortar, and pouring it into about 90 c.c. of boiling water, and filtering. The filtrate should alone be used, and the paste made fresh every day, as old paste will not do.

It will be necesasry before commencing operations to carefullystandardize or accurately determine the strength of the thiosulphate solution. Full details regarding this can be obtained from text-books dealing with the subject. It must, however, be remembered that the strength of this solution diminishes on keeping. With regard to the iodine and mercuric chloride solutions, both should be filtered before use. Some chemists mix these solutions together, allowing them to stand twenty-four hours, while others follow the practice advocated by Dr. Lewkowitsch, of keeping the solutions separate, and not mixing them until they are required for use. The mixture, however, in this case, must stand for twenty-four hours. By following this latter method, little or no change takes place in the value or strength of the solutions, while, when mixed together from the first, the strength is more likely to diminish on keeping.

It is important to remember that all the solutions required for carrying out the determination must be kept in the dark.

The determination is made as follows:

About 0.2 to 0.4 grams of the sample of oil is accurately weighed by difference into a flask, of about 300 c.c. of chloroform. When this has taken place, 25 c.c. of the iodine-mercuric-chloride solution is added. At the same time a blank experiment is started, using the same amount of chloroform and iodine solution. The flasks are then corked and allowed to remain in the dark for not less than sixteen hours. If the liquid after this time should not appear a dark brown color, a further 25 c.c. of the iodine solution is added, and the liquid left over night, but enough iodine should be used in the first instanee to ensure that one-half of it remains unabsorbed. To the flasks is then added 25 c.c. of a 10 per cent. solution of potassium iodide, and about 150 c.c. of water.

The uncombined iodine is then titrated with $\frac{N}{10}$ sodium thiosulphate, the flask being well shaken during the addition of this solution, and until the free iodine has almost disappeared.

A little of the fresh starch is now added, and the thiosulphate solution drop by drop, until the blue coloration has just disappeared. The blank experiment is conducted in the same way, and the number of c.c. of sodium thiosulphate required in the first ease deducted from those used in the blank experiment.

If the sodium thiosulphate is exactly deeinormal, the difference is multiplied by 0127. This gives the amount of iodine taken up by the same or oil under examination—the caleulation being as follows:

Example—

Oil taken 0.3 grams

Blank required 32.0 c.c.

Sample required 20.0 c.c.

$$\frac{12 \text{ c.c.} \quad 12 \times .0127}{.3} = .1524 \times 100 = 50.8 \text{ per cent. iodine absorbed.}$$

In the next method to be described, known as Wijs's method, this depends on the use of a solution of iodine

monochloride in glacial acetic acid ,and is made as follows:

Dissolve 12.5 grams of iodine in one litre of glacial acetic acid, gently warming all the time. When cold, take 25 c.c. and dilute to 200 c.c. with distilled water, and add 10 c.c. of potassium iodide solution, and titrate with standard sodium thiosulphate solution, adding starch in the same way as under Huebl's method.

An apparatus must now be arranged for the preparation of chlorine, which is made by decomposing a mixture composed of equal parts of manganese-dioxide and sodium chloride and dilute sulphuric acid. Heat the mixture in a suitable flask, the chlorine gas being well washed by passing it through a series of wash bottles, containing alternately water and sulphuric acid.

The chloride is passed at a steady rate through the dark colored iodine solution, which gradually becomes lighter in color, and at last when the final change takes place, by the formation of iodine-monochloride, the liquid becomes yellow, the end reaction being soon determined with a little practice.

Now measure out 25 c.c. of acetic acid solution and add this, along with 20 c.c. of potassium iodide solution, 400 c.c. of distilled water, and titrate with sodium thiosulphate. The amount of thiosulphate used should be double the volume used by the iodine solution in the previous titration.

This solution of iodine chloride, in glacial acetic acid, is used in exactly the same way as the mixed Huebl solutions, the advantage of this method over the former being that the time of absorption is considerably reduced.

About fifteen minutes only is required by oils having a low iodine absorption, semi-drying oils about thirty minutes, while more unsaturated oils, such as linseed, require about one hour.

A better method for the preparation of the iodine monochloride has been devised by Lewkowitsch, by dissolving 5 grams of iodine trichloride and 5.4 grams of iodine in 500 c.c. of glacial acetic acid. These dissolve to a clear port-wine-colored solution. This method possesses a great many advantages over that of Huebl, and it would seem that the universal adoption will be only a matter of time. It has been shown that light has little effect on the keeping qualities of Wijs's solution.—Oils, Colours & Drysalteries.

A New Odoriferous Substance Suitable For Perfumery.

English patent by the Fabriques de Produits de Chimie Organique de Laire, of 92 Rue St. Charles, Paris, France.

In investigating various essential oils such as essential oil obtained from cassia flowers, oil of ambrette seeds, there has been discovered therein and liberated therefrom a new and important substance which is found to be a sesquiterpene alcohol (either primary or secondary), having the chemical composition $C_{15}H_{26}O$, and possessing a very pleasant, sweet and persisting odor of fresh flowers. This odor is not very pronounced in the essential oils in which the alcohol is present, even if they contain the alcohol in sufficient quantity to render its extraction remunerative, for the reason that it is either concealed by the stronger or entirely different smell of other bodies present therein, or that the alcohol exists in the form of chemical combinations only faintly odorous or of an entirely different odor from that of the new product itself.

By the present invention the alcohol can be either produced in a perfectly pure state or sufficiently pure for commercial purposes. It may serve as a new perfume by itself or may be used for the artificial production of natural essential oils in which this sesquiterpene alcohol or its chemical combinations are present, or it may be used in conjunction with other odorous substances for entirely novel effects in perfumes which hitherto could not have been obtained. In both cases there may be obtained technical effects different from those obtained by using the essences from which this alcohol is extracted.

The alcohol may be separated from the essential oils in which it occurs in a free state by fractional distillation, but it is difficult to prepare it by this processs as a sufficiently pure product.

To obtain it readily in a pure state, essential oils containing the sesquiterpene alcohol are treated with anhydrides of acids such as pathalic anhydride, camphoric anhydride, benzoic anhydride and the like; or better, the fractions obtained from these essential oils by fractional distillation, which are richest in this alcohol, such as the fractions boiling from 150 to 200 degrees C. at 20 m.m. pressure or at a somewhat lower pressure in the case of essential oils of higher boiling point, are subjected to the treatment with the above-mentioned anhydrides.

The ether-like substances then obtained are purified according to any well-known process, and are then saponified to liberate the alcohol.

Essential oils containing not only the free alcohol but also derivatives of it such as esters capable of treatment with alkalis to yield the free alcohol, are preferably subjected to previous saponification with an alkali or an alkaline earth. The treatment with alkali has a double effect: first, the effect of saponification; and second, the effect of resinification of the impurities which cannot be separated from the alcohol by the ordinary chemical methods or fractional distillation, etc.

In the working of the process on an industrial scale there may even be used the crude product obtained by fractional distillation of the previously saponified substances which is rich in the product sought.

After the substances have been saponified as described, and after submitting them to fractional distillation under reduced pressure, those fractions which are rich in the alcohol are purified as above described, by treatment with anhydrides of acids.

When the essence is rich in sesquiterpene alcohol, it is better to treat it with an anhydride of an acid in presence of an appropriate solvent and to operate in the manner described in the example hereinafter given.

If the essence is poor in sesquiterpene alcohol, it is preferable to treat it with an anhydride without a solvent and to keep the temperature somewhat higher.

The most advantageous conditions of dilution and temperature often vary with the nature of the essence to be treated, but a few trials suffice to determine the conditions.

In certain cases it will be of advantage to repeat the treatment with acid anhydride several times with a view of a substantially complete extraction of the required alcohol contained in the essential substance under treatment. A test made with the residue from the first treatment will show whether a second treatment is necessary. If it is found that the alcohol obtained according to the different modes of treatment hereinafter described is still not pure, repeated treatment with acid anhydrides may be applied with advantage.

A New Combined Palm Oil.

MM. Hallet and Sinnael have originated a process for obtaining oil from the fruit of the palm tree (Elaeis Guinacensis), says La Revue de Chimie Industrielle, consisting essentially in treating both the fibrous pulp of the fruit and the kernel which it contains, so that the oil may proceed at the same time from both.

The fruit of the palm tree, from which this oil is extracted, is of the size of an ordinary hazel nut, and has a fibrous pulp enveloping a hard shell containing the kernel.

Hitherto the fibrous kernel has been treated separated from the pulp, in order to extract the oil called palm oil, and the oil from the kernel called palm oil, which are principally employed in the manufacture of soap and stearine.

The fibrous pulp, which contains about 75 per cent. in weight of oil, is ordinarily treated on the spot by the natives by means of rudimentary processes and apparatus, which do not permit of obtaining more than about a third of the oil contained.

According to the process generally employed, the entire fruit is boiled in water. Afterward it is beaten up with a wooden pestle in a mortar, in order to separate the pulp from the kernel, and the whole is then boiled again and the supernatant oil collected. The mixture is drawn off, the kernels separated by hand and another part of the oil extracted by pressing the detached pulp with the hand in a cloth or net-work. The shell is then broken by hand between two stones or otherwise, and the kernels taken out, dried and forwarded to industrial centers to be treated by means of improved processes and apparatus. They contain about 33 per cent. in weight of oil, called palm kernel oil.

The oil extracted from the kernels is white, slightly greenish, while the palm oil extracted from the pulp by the natives is orange red, and should be bleached previously to its employment in soapmaking.

The entire fruit will not bear a long voyage without spoiling, and, as to the pulp, there is no practical method of separating the kernel while preserving its percentage in oil, and it is not transportable in crates on account of its change in the air, and the transportation in casks is too costly. On the other hand, the mechanical processes and apparatus employed until lately for the extraction of the oil, were too complicated to be used in the countries where the fruit is gathered.

The experiments which have been conducted for the purpose of applying in these countries the new processes of direct extraction of the palm oil with solvents without the employment of a press, have led to the discovery of the fact that by submitting the entire fruit to treatment, without separating the kernel from the fibrous pulp, a new oil is obtained, white and slightly yellowish in color, which may be employed in stearine and soap manufacture without any previous preparation.

The process consists in preserving the fruit, sheltered from the air in silos, until the time when a special fermentation is observed, which is peculiar to it, and increases the yield of oil by some 5 or 6 per cent. The entire fruit is then submitted to appropriate mechanical grinders, and the product is treated with solvents, in accordance with processes already in use.

The apparatus necessary for this treatment being capable of employment without difficulty in the localities where the fruit is collected, the mode of treatment mentioned presents the triple advantage of considerably increasing the yield in oil, of obtaining an oil free from water and from impurities, and of reducing the expense of transportation to the point of consumption.

Compared with palm and palm kernel oils, extracted separately from the pulp and the kernel, the new oil, extracted from the entire fruit, has the following distinct characteristics:

In a temperate climate, it has the consistency of ordinary table butter, while the palm and the palm kernel oils are of solid consistency. Its fusing point is from 28 to 30 deg. C., the fusing point of the fatty acids is from 40 to 44 deg. C. The yield in glycerine is 8 to 9 per cent. and in fatty acids 95 to 96 per cent.

The fusing point of palm oil varies from 22 to 43

deg. C., according to its source, and the fusing point of the fatty acids from 40 to 48 deg. C., its yield in glycerine is from 9 to 10 per cent., and its yield in fatty acids from 96 to 97 per cent.

The fusing point of palm kernel oil is 25 to 26 deg. C., and the fusing point of its fatty acids from 26 to 27 deg. C. The yield in glycerine is 11 to 12 per cent., and the yield in fatty acids 91 to 92 per cent.

The excess of the yield in each case proceeds from the water combined.

A New Book on Perfumery.

Under the title, "Die Moderne Parfümerie," there has been brought out a new work (published by H. Ziolkowsky, Angsburg, Germany), which is worthy of special notice. It was written, with the assistance of other practical men, by H. Mann, and is not only the most recent work on perfumery, but it is, as it ought to be, a vast improvement over older books dealing with the same subject.

The book under consideration is a work after our own heart! It is not—like so many technical books—a mere imitation of older works, but it is the result of an honest endeavor to present to the reader an original and exact picture of actual, modern practice. It is written from the standpoint of the practical man, and its aim is to be of the greatest possible practical value to the manufacturer. It is refreshing to find such a book appearing on the market, at a time when most text-books of all kinds seem written for the purpose of either extracting money from (disappointed) buyers; or for creating some cheap glory for an ambitious, but poorly equipped, writer.

This book is replete with useful information and formulæ, including a comprehensive consideration of the new synthetics, and, for the sake of those who cannot read it in the original language, it is to be hoped that a good translator may be found to make possible the appearance of the book in English. It comprises over 500 pages and is sold by the publishers at the very low price of M 10.00 (about $2.50); even with postage and duty added, the cost will be insignificant compared to its real value.

Work has been commenced to double the capacity of the soap factory of James Beach & Sons, of Dubuque, Iowa. Two four-story brick buildings are being built for the purpose, one 60x75 and the other 25x35 feet..

The Larkin Soap Company, of Buffalo, N. Y., has filed plans with the building department of that city for a $300,000 office building.

PATENTS AND TRADE-MARKS.

The following list of recent Patents and Trade-Marks is reported by W. G. HENDERSON, Solicitor of American and Foreign Patents and Trade-Marks, Norris Bldg,, Washington, D. C. A copy of any of the following will be furnished by him for 15 cents.

TRADE-MARKS.

42,442. Perfumes in Solid, Liquid and Powdered Form. Richard Hudnut, New York, N. Y. The words "Le Reve."

42,443. Perfumes in Solid, Liquid and Powdered Form. Richard Hudnut, New York, N. Y. The word "Chrysis."

42,477. Laundry soap. The Lenox Sprayer and Chemical Co., Pittsfield, Mass. The word "Please."

LABELS.

11,017. Title: "Pompeian Massage Soap." (For Soap.) Frederick W. Steeker, Cleveland, Ohio.

11,018. Title: "Pompeian Massage Soap. (For Soap.) Frederick W. Stecker, Cleveland, Ohio.

11,042. Title: "Sultan's Favorite." (For Perfume.) Sowma G. Hayeck, New York, N. Y.

AROUND THE SOAP FACTORIES.

News-items sent us by our readers will find prompt attention in this column

MILLBURY, May 2.—Dr. A. G. Hurd, chairman; Jas. H. Ferguson, clerk, and Charles C. Longley of the board of health, visited the works of the Home Soap Co., at Millbury Junction, this afternoon, to see how the business is progressing, with a view to determining what is best to do about the petition of the Grafton Country Club and others that the license be revoked.

The board is the same as last year, but there is a chance to take away the license each year or renew it as conditions may call for.

The board found the soap works in operation, but did not find the neighbors unhappy on account of it. The board will defer action on the renewal of the license for a few days.

HARTFORD, CONN., May 10.—At the meeting of the stockholders of the J. T. Robertson Soap Company, Saturday afternoon, it was voted to increase the capital stock from $15,000 to $50,000. Among other business transacted at the meeting was the purchase of the mill property which was formerly the Childs place, but was purchased by J. T. Robertson several years ago, from Mr. Childs. The company has been leasing the mill from Mr. Robertson, who is a member of the corporation and after whom the company is named. It was also voted to increase the size of this plant and work will begin soon on plans and specifications. It is expected now that

the work on the new mill will not begin until about the first of July. The company has conducted a very successful business here and gives employment to a number of persons at the north end of the town. It is one of the reliable industries of the north end. A number of persons about town had hoped that the increasing of the amount of the capital would give the Manchester public another opportunity for investing their money, but the stock will be taken by the present stockholders and there will be no new issue.

The Elberton Oil Mills, Elberton, Ga., are installing a soap plant in connection with their mill.

JERSEY CITY, N. J., May 12.—The B. T. Babbitt Soap Manufacturing Company, of 82 Washington Street, New York City, is about to start the erection of a number of factory buildings on the eighty-seven acres of land in the Township of North Bergen, which they purchased on Dec. 4, 1903. The plans, which have been made by Engineer C. O. Aiken, call for nine buildings, viz., a two-story brick building 60 feet wide by 200 feet deep, to be known as the potash building; a two-story brick storage building 60x120; four one-story brick storage buildings, 50x120, 50x100, 60x120 and 120x150; a one-story brick printing building, 50x200; a one-story brick soap manufacturing building, 150x200, and a brick office building.

The Chicago plant of the Armour Soap Works at Thirty-first Place and Benson Street was destroyed by fire on May 12th, causing a loss of $200,000 on building and contents. The fire was for a time exceedingly hard to subdue, and before it was under control a number of frame buildings in the neighborhood of the factory were damaged. The fire for a time threatened to explode the largest gas tank in Chicago, owned by the Universal Gas Company, and containing 5,000,000 cubic feet of gas. Thirty engines were called out. The cause of the blaze is unknown. It was discovered on the third floor of the building by a workman, and then had good headway.

A large part of the machinery formerly used at the plant of the Marinette Soap Co. has been purchased by the H. J. Callahan Soap Co., of Green Bay, Wis., who will enlarge their capacity accordingly. J. A. Cannon, for over 25 years soapmaker for the Marinette firm, has also gone to the Green Bay concern.

WORCESTER, MASS., May 3.—W. C. Pierce, for 20 years manager of the Jerome Marble Company and of the J. Russel Marble Company since the incorporation of that company as the successors of the Jerome Marble Company, and David B. Rice, for the last 11 years a traveling salesman for the company, have bought the business of the Worcester Oil Company, located at 64 Park Avenue, and will conduct the same under the firm name of The Pierce & Rice Oil Company. They will manufacture the usual oil stocks and mill and laundry soaps.

Mr. Pierce will remain with the J. Russel Marble Company until arrangements are made to fill his position.

Mr. Rice is now at the new place of business, and plans are being made for extensive alterations and additions to the present plant.

The Globe Soap Company, of Cincinnati, has taken a lease on a block of buildings and will enlarge plant.

Incorporated: Standard Soap Works, Boston. Capital, $10,000; par value, $100. President, Frank A. Epstein, Boston; treasurer, Julius Cohen, Roxbury; clerk, David A. Lourie, Chelsea; directors, Julius Cohen, Frank A. Epstein, Morris Skibelsky, Roxbury.

The American Soap Company, Cincinnati, O., has increased its capital stock from $25,000 to $50,000.

J. O. Draper & Co., soap manufacturers, Pawtucket, R. I., were incorporated last month under the name of the J. O. Draper Company.

PHILADELPHIA, PA., May 18.—Henderson & Co. have plans of extensive alterations to be made to Dobbins' soap factory, at Seventeenth and Federal Streets, Camden.

JERSEY CITY, N. J., April 30.—There has been incorporated in Jersey City the Seven Oaks Company, registered office 55 York Street. The concern appears to be a branch of the Colgate concern. The objects set forth in the title do not in any way touch upon the manufacture of soap, but are of omnibus character and permit any kind of business. The capital stock, as in all nominal concerns, is very small, being fixed at $2,000 in shares of $1 each. All the stock is subscribed to the shares being held by the following incorporators: Sidney M. Colgate, 999 shares; Austin Colgate, 999 shares, and Adelbert A. Kenyon, 8 shares. All the incorporators reside in the Oranges.

A contract has been placed for extensive alterations and additons to the Lever Bros., Ltd., works at Cambridge, Mass.

It is reported that Geo. Olmstead, a retired cigar manufacturer, and B. H. Gilbert, formerly of Deland & Gilbert of Branchville, Conn., are to embark in soap-

making in London, Ont. They have leased the old Advertiser building on Richmond street, and carpenters are remodeling and refitting it for the new firm, which is to be called "The Crown Chemical Co."

A company organized recently in New Orleans, under the name of the German-American Soap Works, is erecting a factory in that city and expects to have its first soap on the market by the middle of next month.

The soap works of W. H. Spahn at Lebanon, Pa., have been sold to S. Shucker and Harry Shindel.

A fire was discovered by the watchman in the rear of the J. C. Dow Soap factory at Cambridge, Mass., in the night of May 16. It is supposed to have been an incendiary attempt to destroy the works and the police are at work on the case.

The Brown Soap Co. of Dayton, Ohio, has increased its capital stock from $25,000 to $50,000.

J. E. Butler, of New Hope, Ala., and J. M. Kyser, of Huntsville, have organized a company with a capital stock of $150,000 to establish and operate a cotton seed oil mill, fertilizer factory, soap factory, and ginning plant at Huntsville, Ala.

KANSAS CITY, MO., May 18.—The operation of the new million dollar Proctor & Gamble Soap Plant in Armourdale will begin August 15, according to W. C. Proctor of Cincinnati, general manager of the company.

Mr. Proctor and his father, W. A. Proctor, president of the company, arrived in Kansas City yesterday to inspect the plant and to attend to private interests.

"We intended to go to the factory this afternoon," said Manager Proctor at the Hotel Baltimore last night, but an engagement with President Stilwell of the Orient railway occupied more time than we antieipated and our inspection was necessarily postponed until tomorrow morning.

"The reports to the general offiee assure us, despite numerous delays and mishaps, that we will be in shape to begin operations the middle of August. Frank Skillman, a superintendent of the main factory at Ivorydale, just out of Cincinnati, has been appointed general superintendent of the Kansas City factory. He will assume charge June 1 and make his headquarters here after that date.

"Mr. Skillman will have under him 650 men, whose work will be directed through him, from the main office in Ivorydale. He will superintend both the manufacture of the different Proctor & Gamble varieties of soap and the refining of cotton seed oil. When the Kansas City branch was decided upon the directors figured on an output amounting to $5,000,000 annually. Since we have come to Kansas City and talked with Mr. Stilwell and other large capitalists, we are confident the yearly receipts will exceed by an appreciable sum that figure. It does not take one many hours to realize that Kansas City is destined within a few years to be the great distributing point for the vast Southwest country, and frankly we congratulate ourselves on selecting this location.

"Our information is that the buildings are practieally complete. A 3,500 horse-power boiler plant is about done and the installation of machinery is progressing rapidly under the direction of the Westinghouse people of New York."

President Proctor and General Manager Proctor will return from Armourdale at noon, and leave for Cincinnati this afternoon.

The John Stanley Soap Works on W. 30th St., New York City, were destroyed by fire on April 27. The loss is said to be complete.

Edward Lipps of the Christopher Lipps Soap Co. has just had an adventure that he will remember for a long time. He had gone fishing with a brother and some friends, and the party, in separate boats, was overtaken by a severe storm in Chesapeake bay. The brother, Frederick Lipps, succeeded in reaching the shore in a most exhausted eondition and after giving the alarm, organized a searching party which started on a tug boat to look for Edward Lipps.

After 23 hours of exposure to the elements, the missing man was found, unconscious, in his boat that had drifted ashore. He is well on the way to recovery, we are glad to learn.

Additions to Our Brand List.

113 Puck Manufacturing Co., Des Moines, Iowa.

346 Beaumont Soap Co., Mayfield, Ky.

347 Lockwood Soap Co., Kansas City, Mo.

348 Oklahoma Soap & Oil Co., Oklahoma City.

349 M. F. Windsor Soap Co., East Buffalo, N. Y.

350 Florida Cotton Oil Co., Jacksonville, Fla.

351 Brown Soap Co., Dayton, Ohio.

Allpine Tar 337
Ammonaptha 347
Aquidneck; F. P. Garrettson & Co., New York City.
Bauty 32
Bestever 286
Big Injun 348
Big Luck 350
Bi-Naptha 348
Bleachem Soap 341
Blo-Re-Mo 333
Breath of Heliotrope 337
Breath of Lilacs 337
Breath of Roses 337
Breath of Violets 337
Brightshine 136
Cade-ola 3
Carbolized Castile 113
Cascade 16
Chiles' Cactus Cream Skin S.—Geo. Catlin, Chicago.
Coaster 32
Cream Naptha 343
Cricket Soap Powder; Davis & Marston, New York City.
Der-Foda 3
Dollie (Filtered) Blue 352
Dylissia—Vin lia Co., Ltd., Loudon, England.
Ebony 351
Egg Tar; Lee Specialty Co., Detroit, Mich.
Fantasy 11
Feltine 352
Flaco 350
Floss 113
Fuzz 113
Gasene 106
Gasoline Lauudry Soap 120

Gondola 38
Grandma's Ammoniated Powdered Soap 38
Grandma's Borated Powdered Soap 38
Grandma's Borax Powdered Soap 38
Gray-beard 348
Green Oil Soap 341
Hasn't Scratched Yet: Bon Ami Co., New York City.
"High 5" 113
Home Pride 347
India Castile 337
Iowa Belle 113
Kitcholine 113
Kremo Soap Compound 352
La Platte 337
Letter Box 38
Lily Blossoms 337
Marigold 106
Milo 106
Monahan's Green Soap 341
Naptha Washing Powder—(for Canada) W. H. Judd & Co. Hamilton, Ont.
Norway Tar 349
O. K. Tar 348
Oilex 348
Old Man 4
Orchid Blossoms 337
Oriental Tar 337
Papoose 348
Pike 16
Please-Lenox Sprayer & Chem. Co. Pittsfield, Mass.
Polar Bear 106
Pompeian Massage Soap F. W. Stecker, Cleveland, Ohio.
Postman's 38
Pow Wow 348
Puck's 113
Puck's Mechanics 113
Puck's Shaving 113
Puck's Tar 113
Queen Regent 337
Quo Vadis 337
Raven Tar 337
Red Hot 38
Rio Grande 337
Rose Blossoms 337
Rozine—Frank Harrison, Norfolk, Va.
Snow Float 348
Snowhite 113
Soapex; W. R. Hollingshead Co., New York City.
Spotless 350
Steamboat 350
Summer Blossoms 337
Sunburst 106
Tar Egg 347
Tarlex 348
Tarline 349
The Two Tars 286
Top Notch 106
Transparent Brilliant 337
Transparent Rose 337
Type Soap—Type Soap Co., Pierre, S. D and Chicago.
Veribest 286
Violet Blossoms 337
Washaway—Washaway Mfg Co., New Bedford, Mass.
Wheel 32
White Linen 113
White Purity 349
White Zephyr 349
Yellowstone 106

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SUPPLEMENTARY LIST

OF THE

BRANDS OF SOAP MANUFACTURED IN THE UNITED STATES

Including also the Brands of Foreign Manufacture Registered as Trade-Marks in this Country.

NOTE: This list is compiled with the greatest possible care, but the publisher does not assume any responsibility other than to correct and to complete the list according to data obtained from official sources or furnished by the trade. Brands registered in the patent office as trade-marks or labels are given with the name of the party registering same. Brands or names marked * are those which were found to be used by more than one firm or the owner of which could not be ascertained. ☞ SEE THAT ALL YOUR BRANDS ARE ENTERED IN YOUR NAME.

3—Liberty Mfg. Co., Chicago.
344 Home Soap Co., N.Y.
345 Columbia Ref'g. & M'f'g Co. Ltd, New Orleans.

Ahrado, Floridine Mfg. Co., New York.
A Happy Home 4
Alabama Tar 3
All-need it 286
Amazon Coco 337
Amber Rose 346
Anchor Castile 3
Angelus 54
Antelope 3
Antillia 2
Anty Up 340
Apple Blossom 337
Atoka 346

Baby Mine 8
Bannock 3
Beauty Belle 151
Beaumont's Shaving 3
Beef Oil 340
Bell's Brown 343
Bell's Naphtha 343
Ben Hur 3
Bicycle 3
Big Glycerine 3
Billy-Goat 340
Blossom Bouquet 3
Blue Chip 340
Blue Cloud 2
Blue Coco 340
Blue Family 340
Blue Monday 340
Blue Olive 340
Boast 3
Botica Francisca 3
Bouquet Chic 3
Bouquet Reverie 3
Brazilian Bath 3
Bunny—Hewitt Bros. Soap Co. Dayton, Ohio.

Calcutta Castile 337
Calumet 3
Camille 3
Ceske Slovonsky 3
Ceske Polski 3
Chlorine 340
Cleaneasy 286
Climax Chip 54
Cloth Pin 340
Cloths Pin 340
Coa Nut 346
Coca Foam 3
Columbia 3
Conto & Elroy Castile 3
Credential Shaving Stick 16
Crown Princess 337
Crystal Honey 346
Crystal Sulphur 3
Crystal Palace 3
Crystal Transparent Tar 3
" " Carbolic 3
Cuban Rose 3
Cuta Alba 3
Cultoderma Medicated 3
Cycle 3

Dactylis 11
Dermienra 327
Diadem 3
Druggist's Transparent 3
Dr. Allens Medicated 3
Durango Best, Durango (Colo.) Soap Co.

Elk's Bouquet 346
Empress Eugenie 115
Empire Geranium 337
Eucryl Eucryl Ltd., Hull, England.
Eureka 3
Evergreen 286
Expert 286

Facine 340
Fairbank's Primrose 2
" Scouring 2
" German Fam. 2
" Glycerine-Tar 2
" Mottled Germ'n
" Olive 2
" Navy Blue 2
Federal Family 1
Floral Feast 115
Flannel 2
Flip 345
Force, Cincinnati Soap Co., Cincinnati, Ohio.
Fragrant Honey 2
French Violette 3
Frog 340

Gem Wash, Compound, Clara Pearce, Philadelphia.
Georgia Oleine 29
Geronne Violette 3
Geyser 343
Giant 3
Gloriola 29
Glycerated Tar 346
Glycerderma 3
Golden Rose 3
Gold Seal Soap Flour 340
Goodhair, Goodhair Remedy Co., Newark, Ohio.
Green Olive Chip 340
Green Palm 340
Green Seal Chip 340
Gusher 340

Hard Maple 155
Heliotrope Blanc 3
Heliotrope Ideal 334
Helix 54
Hi Lo 96
Home Castile 3
Horse Oil Harness 340
Hots Springs Bath 3
Hy-Lo 96

Ideal Bouquet 3
Ideal Family 3
Idyllwild 54
I-Lika-U 286
Ilo-Ilo 340
Imperial Crown 3
Iroquois Maiden 115

Jack & Jill 340
Jack Pot 340
Japanese Bath 3
Jerone Bouquet 3
Jewel 2
Jus de Framboise 3

Kaska Bouquet 346
Kazan 343
Kimola, Bell Mg. Co., St. Louis, Mo.
King Solomon's Rock Oil S. Mnross Jenkins, N. Y.

Lakeside (Scouring) 2
La Mariposa 54
Lamsuet 3
Lasco Napthol 54
Last Long 286.
La Virtho, John S. Nichols, New York.
Le Fameux 16
Le Fameux Rose de Seville 16
Le Fameux Violette de Sevill 16
Le Fameux Peau d'Espagne 16
Le Fameux Jockey Club 16
Lemola Toilet, Lemola Soap Co., Los Angeles, Cal.
Lemolive 54
Lemonine, E. H. Kraut, Cincinnati.
Lettuce Cream 3
Libertys London Transparent 3
Liberty's Quartette 3
Liberty's Genuine Bouquet 3
Limberine, E. A. Warren, St. Paul, Minn.
Lion 2
Lisette 3
Little Sweetheart 346
Llama 3
Long Shot 345
Lotus Bouquet 3
Lotus Honey 3
Lotus Glycerine 3

Madeira 16
Madeira Almond Cream 16
Madeira Cucumber Cream 16
Madeira Lettuce Cream 16
Madeira Olive Cream 16
Marjorie 337
Marveline 300
Marvelo. National Process Co, Rochester, N. Y.
May Field Bouquet 346
kina Skin 346
Maxine Elliott 337
Medical Lake 3
Medicated Witch Hazel 3
Mentholatum Corn Oil S. 169
Mexicano 54
Michigan Family 2
Mildred 337
Millens Cream 3
Millens Toilet 3
Millens Antiseptic 3
Millens Tar 3
Miners Tar 3
Milk Bath 3
Monroe 3
Moss Rose Borax 3
Mox-Nix 340

Naphtha Toilet 340
Naphthal 340
Napthol 340
Naptholive 340
Naptha Washing Powder—Hunt Mfg. Co., Cincinnati, Ohio.
Natural Gas 340
Next-To. Phoenix Chem'l Co. New York.
Nolabor 340
Northern Star 3
Noxlabor 340
Noxwork 340
No. 81 White Rose Glycerine 3
No. 3725 White Rose Glycerine 3
No Name 3

Old English Brown Windsor 346
Old English Blue 3
Old Linen 3
Old Time Tar 3
Olive Bath 3
Orinoco 337
Orris Unscented 337
Otis Lightning, C. H. Waterhouse, Essex, Conn.
Our Baby's Bath 3
Our Own 3
Our Special 3
Oxolive 340
Oxigen 340
Ox Oil 340

Palmo 340
Palm Oil S. Powder 340
Palm Soap Flour 340
Parisian Toilet 54
Passion Rose 298
" Violet 298
" Pink 298
" Lily 298
Peace 340
Peach Blue 340
Peerless Country Club 337
Peerless Forest Violet 337
Peerless Lily of the Valley 337
Peerless New Mown Hay 337
Pen Yen 340
Perfecto 121
Plantol Lever Bros., Limited Port Sunlight, England.
Poncine Erasive 3
Pony Up 340
Popular Blossom 3
Premium, Davenport (Iowa) Soap Co.
Premium W. Powder, Davenport (Iowa) Soap Co.
Preventionette, Willard Chemical Co., Malden, Mass.
Pure Large Oval 3

Queen Complexion 3
Quick and Easy 56

Radiant Violet 3
Red Raven 346
Reve d'Amour 3
Rex Cremo 340
Rex Family 340
Rex Liquid Soap 340
Rexolene 340
Rexolive 340
Rockford Scouring 2
Romola 3
Rose d'Or 3
Rose Glycerine 3
Rose Immortelle
Royal Lily 16
Rubbo, Lever Bros., Limited, England.

Safeguard Carbolc 53
Samson's Transparent Tar 3
Sandalwood 3
Sani-Tari Skin, Citizens Wholesale Supply Co., Columbus, O.
Santa Rex Castile 2
Saner's Complexion 3
Savon White Rose 3
" Jockey club 3
" Violete de Parme 3
" Hyacinth 3
Savon Carnation 337
Savon Heliotrope 337
Savon Lilac 337
Savon Queen Regent 337
Savon Quo Vadis 337
Savon Rose Marechal Niel 337
Savoy Alpine Violet 337
Savoy Carnation 337
Savoy Jockey Club 337
Savoy Primrose 337
Sayf Syde, Sayf-Syde Soap Co., Cincinnati.
Sentinel 340
Sentry 340
Snow Violet 3
Solos Laundry, Nelson Mfg. Co., Iowa City, Iowa.
Sorosis 340
Stainoff, D. M. Steward Chattanooga.
Stainilgo, Kendall-Davis Co., Boston, Mass.
Star Mottled 2
Star Tar 286
Success Scouring Sand Soap Tacony Soap Co., Phil'a
Superior Transparent Glycerine 3
Sweet Blossom 2

Tew-Fer 96
Tode 340
Toula Toula 334
Town Market 3
Trash Mover 286
Twin 2
Twin Rose 3
Two Jacks 340

Uncle Sam's Floating 120
U-Lika-Me 286

Vegetal Bouquet 3
Vestal Carnation 16
Vestal Lilac 16
Vestibule 3
Vineta 3
Vinola Cream 3
Violette Grandfleur 334
Violette Revee 3
Violet de Parme 337

Wego 96
Wendela 3
Whale 3
White Fairy 2
White Pine Castile 344
White Rose Glycerine 3
White Rose Honey 3
White Saxony 3
White Wonder 346
Windsor 2
Winner 29
Witch Hazel Bath 3
Witch Hazel Bouquet 3
Witch Hazel Shaving 3
World's Fair 2
World's Work 53

Yellow Dog 340
Yellow Palm 340
Yellow Rose 3

Zingarella 3
Zo-Zo White Tar 3
Zanette 3

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Position Wanted: By a first-class, up-to-date laundry and toilet soap maker; knowledge of chemistry, export and cotton seed foots soaps, etc. At liberty to accept a position by May 1, 1904. A-1 references. For further particulars address: P. E. W. care Michigan Soap Works, Detroit, Mich.

Position Wanted: Capable, young soapmaker, German, experienced in the manufacture of household soap, specially toilet soaps, perfumes and toilet articles of every kind, desires situation. Best references and testimonials. Address: K. H., care of American Soap Journal, Milwaukee, Wis.

Position Wanted: By first class oil and soap chemist, expert in refining cottonseed oils and manufacture of all kinds of soaps. Would like to correspond with parties who are looking for such a man. Am ready to make change July 1st; have been in the business over 30 years, am in good health and strictly sober, would take interest in suitable concern. A good healthy location preferred. Very best of references. Address: W. F. N. care of American Soap Journal.

Position Wanted: By an up-to date soap maker, 25 years' experience in making of all kinds of laundry and toilet soaps; including all kinds of textile soaps, chips and soap powder, recovery of glycerine from waste soap lye with the best obtainable results. Best of references. Address: F. U. care of American Soap Journal, Milwaukee, Wis.

Position Wanted: By a thoroughly reliable, up-to-date soapmaker, competent in Laundry, Toilet and Textiles. Samples of any soap if desired. Will guarantee satisfaction or no pay. First-class references gladly furnished. Formulae and directions for any soap furnished by mail. Correspondence held strictly private. Address: Horace Marble, care of American Soap Journal, Milwaukee, Wis.

Situation Wanted: A Soapmaker, who is also a good soap and oil chemist, would like a permanent position with some progressive firm. Can make any kind of toilet or laundry soap and is thoroughly up-to-date in methods of manufacture. Can make exceptionally fine soaps from cotton seed foots, and is well trained in glycerin recovery. Cheap firms need not answer. Address: J. J. E. B., care of American Soap Journal, Milwaukee, Wis.

SOAPMAKER WANTED.

"Soap Maker wanted, must possess good experience of best quality Toilet, Shaving and Household Soaps, good position for suitable man. Box 30, care of American Soap Journal."

Wanted:—A scientific soapmaker, competent to take entire charge of manufacture of a cold boiled laundry soap. New factory. Give references, wages and when could come. Address. MANUFACTURER, care of American Soap Journal, Milwaukee, Wis.

Soapmaker Wanted: We are desirous of securing a first-class soapmaker who has experience in making tallow and cotton seed foot soaps. Address: H. S. care of this paper.

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A new soap and candle business, with exceptional opportunities, desires to find an experienced all-around soap and candle maker, one who is willing to work. A suitable man, if he likes, may take an interest in the enterprise. Address: G. T. care of this paper.

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FORMULAE FOR SALE.

Formulae for the manufacture of all kinds of soap furnished at reasonable rates. Satisfaction guaranteed. Soap manufacturers who have spoiled soap on hand will find it to their advantage to address: B. Hite Dardley, care of American Soap Journal, Milwaukee, Wis.

PARTNER WANTED.

Partner Wanted: Practical Soap Man, Salesman or Superintendent, may secure interest in factory in fine location with good business. Investment required, $5,000 to $10,000. Full information given to parties meaning business. Address: General Finance Company, Davenport, Iowa.

The American Soap Journal & Manufacturing Chemist.

A MONTHLY JOURNAL OF THE MANUFACTURING CHEMICAL INDUSTRIES.

DR. HENRY GATHMANN, PUBLISHER. 2707 North Ave, Milwaukee. MILWAUKEE, WIS., July 1, 1904. VOL. XIV. No. 11.

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AND

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For Rates and other Information concerning small advertisements of **WANTED** and **FOR SALE**, see Announcement at the head of that page.

OFFICE OF PUBLICATION:

2707 NORTH AVENUE, MILWAUKEE, WIS., U. S. A.

The AMERICAN SOAP JOURNAL AND MANUFACTURING CHEMIST is devoted to the interests of all manufacturing industries of a chemical character, and is an absolutely independent publication. It is the only newspaper of its kind in America and has also a large foreign circulation.

For Subscription and Advertising rates see above.

Communications on industrial subjects, news items, and any information suitable for printing in these columns, are solicited and will have due attention.

Readers in search of machinery, supplies etc., not advertised in these columns, are invited to write us and we shall endeavor to supply the information.

Address all communications to

DR. HENRY GATHMANN, Publisher,
2707 NORTH AVENUE,
MILWAUKEE, WIS., U. S. A.

Owing to the cool weather prevailing in the early spring, the new crop of soap brands was somewhat delayed; but early signs of an average harvest, at least, are even now presenting themselves.

In a recent communication from United States Consul-General Bellows, at Yokohama, the attention of American manufacturers and inventors is called to the fact that those doing business in Japan are threatened with a serious state of affairs owing to the actions of certain persons in that country who have been lately registering a number of the most famous American trade marks. This has put to a standstill the business covered by such trade marks except when purchased through the persons who have wrongfully registered them.

A soapmaker who advertised in this paper last month for a position, received among other replies one which he returned to us for comment. It was from a writer who stated that he would need a soapmaker "in a few months," and in the meantime would like to receive samples of such soap as the advertiser could make, "about 1½ lbs. of each." Apart from the fact that our correspondent is now making about 50 brands, which would mean about 75 lbs. of samples, it is obviously impossible for any soapmaker to prepare 1½ lbs. of every soap which he *can* make.

However, our correspondent inclined to the belief that this was merely an attempt to obtain for the asking a lot of soap from every soapmaker looking for a position, which was the reason why he asked for our comment. In this, we are convinced, he is mistaken, for the request for these samples comes from the private address of a member of a bona fide soap manufacturing firm.

Laundry papers contain the advertisement of a Chicago man who invites laundries to "Make Your Own Soap." Apart from the testimonial of a Kansas City laundry, the advertisement consists of these statements:

"I have a system that is in use in many large laundries, also have a special galvanized steel tank for the purpose, from five barrels upward. My formula will produce the desired soap in two hours' time, up to three thousand pounds, saving one-third, with better soap;

always uniform. The laundryman knows what that means. I sell tanks and formulas low, where I do not have to install same. Testimonials verify claims. Also sell high test caustic soda for soap making (low grade causes trouble) packed in air tight 50 lb. cans, 4 to case, the highest test. English lime in 10 lb. cans, 2 to case, both 3½ cents. Correspondence solicited. All orders shipped same day received, carload or case. I sell more than any supply house in the country, making the trade with soap business."

Soap manufacturers supplying laundries will look forward to some interesting correspondence with their customers when this advertisement begins to take effect.

The importation of all sorts of luxuries has shown a marked falling off in recent months. In the matter of toilet soaps the imports for April last amounted to $79,916, as against $87,484 for the same month last year. In classing toilet soap with luxuries, of course, reference is had to *imported* toilet soaps only; those of home manufacture are necessities.

The Hazleton (Pa.) "Plain Speaker" says: Few grocers in the large cities have any idea of the tremendous havoc wrought in the country grocer's soap trade by soap premium schemes.

Throughout the interior portion of Pennsylvania, for example, the premium scheme has practically killed the retail soap trade. It is no uncommon thing for the grocer to receive orders for $5, $10 or $15 worth of groceries which will not contain a single cake of soap.

The premium distributing companies have gotten in touch with a large number of hustling local women who form clubs of ten, each of whom contributes $1 per month. This buys a $10 premium assortment every month and the premiums go to the different club members in their order. The lady who formed the club gets something special.

Some families in the coal regions have enough soap stored in their garrets to last two years.

The germ of premium schemes once implanted seems most contagious. Up to a few years ago the enthusiasm over the scheme was confined to Americans. To-day, especially in the coal regions, miners' families of all nationalities are eagerly buying the soap and getting the premiums.

A press-dispatch from Huntsville, Ala., says in regard to a new cotton oil mill and soap and fertilizer factory:

"The mill will be operated in the interests of the farmer and will be worth thousands of dollars each year to him, even if no actual profit is made by operation of the concern."

Here is a new stage in the evolution of the soap business. First soap was made for the sake of the profit it would bring the manufacturer. Then it was made without profit, for the sake of the glycerine. Then both soap and glycerine were made without profit, for the sake of working up tallow, etc., produced as a by-product, in the course of operating large establishments producing much grease and oil. And now we have come to a point where an entire manufacturing establishment is to be operated without profit, merely for the sake of the farmer (who presumably takes stock in the concern, else what could be the object of the operators of the oil mill?).

Unless this "is the limit," the next logical step in this process of evolution would be to also work the farmer at actual cost of extracting from him whatever he contains of value.

A month or so ago a subscriber asked us for a little information on a technical difficulty. We replied to the best of our ability and now have before us a letter which concludes with these words: "Please find herewith check for $5.00 in recognition of your past courtesies." Some of our correspondence is very pleasant indeed.

We do want to be of service to our subscribers, individually and collectively.

In this aim, we flatter ourselves, we succeed more or less often.

However, there are a certain few things which are *very* frequently asked of us which we can not do.

We have explained the conditions in such cases to each of our friends in so many individual letters that we hoped every one in the trade would understand them by this time.

But they don't.

The same requests are coming in with redoubled frequency.

It is easy for us to receive a letter in which there is a two or three line inquiry, but

It is not easy for us to reply in full to every such inquiry in a personal letter.

Perhaps the following, in printed form, will satisfy future correspondents in place of written replies.

In this we follow the United States government, whose departments have printed replies to very many questions, each beginning in substance with the words:

"It is hoped this printed reply will be taken as a courteous reply to your inquiry."

In other words, in place of personal letters, we shall hereafter answer certain inquiries by sending a marked copy of the following *printed* remarks:

* * *

Regarding a Soapmaker Being Wanted: Every month we are asked by one manufacturer or another to recommend a soapmaker capable of filling a certain position. While at almost all times we know several soapmakers looking for a situation, we do not know accurately and in detail their ability and character; nor do we know as a rule just what are the demands of a given position on the ability of the soapmaker. We may know a soapmaker who is or has been filling a responsible position with great credit, but whose abilities are perhaps very unlike those demanded in some new position!

Again, with but occasional exceptions, men looking for new positions advertise to that effect in the Soap Journal; our correspondents could save time by writing such advertisers directly; the latter can tell them better what they can do, than we can.

Moreover, a soapmaker who is employed, but is looking for a chance of improving his position, does not permit us to give his name; he advertises and you can reach him by writing. We can not give you his name. If we, on the other hand, should ask him to write you, it would appear to you that we actually mean to recommend that particular soapmaker, which, as a matter of fact, we can not do in many cases.

With few exceptions soap manufacturers will not permit us to enter their factory and watch their soapmakers closely; hence we can have no intimate knowledge of their ability. We do know many men closely by their reputation; but to know that they can do good work in say laundry or toilet soap, does not in itself justify us in recommending them to a manufacturer who for all we know makes—among other kinds—textile soaps, etc.

* * *

Regarding a Position Being Wanted: Quite often soapmakers write us, offering—instead of advertising at a small cost in this paper—to pay us a substantial sum if we will procure them a position. Evidently they mean no harm in making such offers, but a few words will make it plain that we can not accept the latter. To begin with, those who advertise in this paper for positions do so in the conviction that we shall treat them impartially; it would be very unfair for us to attempt to secure the positions open at any time for those who secretly pay us a premium! If your employer were to learn that our recommendation of you was not disinterested, but that the first month's wages which he paid you secretly went into our pocket, we should loose a good friend! Thirdly, we are busy enough with things that shall secure and retain us the good will and confidence of the trade; we have therefore no desire to meddle in what should be entirely a matter between employer and employe.

The one dollar (or the fifty cents) which we charge for such an advertisement will secure you *all* the services which this Journal can render you in this respect; we could do no more for $100.

If, after this explanation, any soapmaker does not wish to risk the small fee for an advertisement, we can have no interest in securing him a position.

* * *

Regarding List of Soap Brands: In January, 1902, we published a book containing, in alphabetical order, all the brands of soap which up to that time we had collected, and names of their owners. All the brands collected since that time appear in the supplementary list appearing in every issue of the Soap Journal. Thus the original book of 1902 and the *latest* copy of the Soap Journal, taken together, form our complete list at any given time.

A copy of the list is sent, postpaid, on receipt of remittance of the price, $3.00.

Improved Plans.

New York, June 1, 1904.

Dear Sir: Every year the indications point more strongly to the fact that land in this neighborhood is becoming too valuable to be used in the manufacture of low-priced articles.

Our arrangements here have been most satisfactory under a long and favorable lease from interests friendly to the firm; but wishing to provide for the inevitable move, as well as for our growing business, we have been examining during several years past all possible locations in or near this city.

We have finally decided upon and secured land on the Jersey City Junction railway, where we will have the best switching facilities and lowest freight rates and also be near the ferries. Our plans call for a six-story building of concrete construction, fireproof, 108 feet square. There will be no buildings adjoining nor in dangerous proximity, thus assuring us light from four sides and the lowest insurance rates.

The entire arrangements will be such as will enable us to handle our business with the greatest facility and economy in every respect. As our lease of this building has six years yet to run, we have plenty of time in which to carry out our plans, and will have our new plant running before abandoning this one, thus avoiding any interruption. Respectfully yours,

The Holbrook Mfg. Co.

The Soap Premium.

(From Seifensieder-Zeitung.)

There once lived a grocer who, as the proprietor of the firm of Givens & Takem, was the terror of all commercial travelers; for be it known that, when he placed an order for goods of any kind, he insisted first of all on the very lowest prices; and although he paid his bills only with all sorts of deductions on as many sorts of pretenses, his orders were given with the understanding that in order to retain his good will for the future a personal, private present of some kind accompanying the goods ordered would be of importance.

Above this grocery store there lived a maid who was fair to look upon, and the grocer's oldest clerk had discovered this astonishing fact; but his courting had produced no effect on the fair lady; even his serenading her with an okarina, which he knew how to blow in a most masterly manner, was unsuccessful. Instead, he discovered that a neighbor's son was a rival, and a luckier one at that. When he saw at last that this fortunate, detested young man repeatedly visited the fair one on an evening by climbing up the rope of the elevator (to gain the next story unseen by curious eyes), he hatched out a deep, dark plot.

One afternoon some barrels of soft soap, long overdue, had at last arrived at the store and stood in the yard, ready to be brought in as soon as time could be found for the work. Evening came, the hour was dark, and presently the ever watchful clerk discovered his hated rival stealthily creeping past the window, climbing up the elevator rope, and disappearing into the open window of the second story.

To rush into the yard and open a barrel of soft soap was but a moment's work; up the rope climbed the grocer's clerk, and then he descended again, slowly greasing the rope with soft soap as he cautiously went down. At last he placed the open barrel carefully underneath and then hid himself to watch the result in fiendish glee. In due time appeared the fortunate lover; he grasped the rope, swung himself out of the window, and shot like lightning down the greased rope, landing with both feet in the soap barrel, into which he sank above the ankles. Seeing the trap and hoping to escape before his cry of surprise should attract witnesses, he freed himself from the soap, but only by leaving in it the beautiful slippers in which he had appeared before his sweetheart. This latter detail, however, escaped the attention of our heavy villain, who with a hoarse chuckle rolled the barrel into the store and retired for the night.

Next morning the owner of the store took occasion to examine the soap, to find cause for an extra discount from the bill. Then he found the slippers embedded in the soap. The clerk, who guessed the truth at once, was frightened, but breathed easier when the boss remarked:

"It's all right to send me a pair of such pretty slippers as a premium, but putting them into the soap is a mean trick."

Soap A Hundred Years Ago.

In a book written in 1802 by Hermstaedt, professor of chemistry in Berlin, on the art of dyeing, there is a chapter on soap which is very interesting to read now, a century later. He says:

"Soap, in the general sense of the word, is the product of any fat with an alkaline salt. Three kinds of soap are usually distinguished, namely, common or house soap; French, Marseilles or Venetian soap, and black or green soap. The first two of these consist of fat and soda and are hard; the last named has potash for a base and is therefore always soft or smeary.

"Common soap, also known as tallow soap, is made as follows: A caustic lye is made from the ashes of hard wood (or from potash), lime and water. In the lye is dissolved, by boiling, a sufficient amount of tallow and then there is added to this solution enough salt to separate the soap in a solid state. From the combination of the potash with the tallow a soft soap is formed; but when the salt enters the boiling mass, it gives up its sodium to the fat, while the potassium joins the liberated hydrochloric acid of the salt to form a neutral compound. From the soda and fat there thus results a solid soap which swims on the surface of the lye and is taken off, dried and cut into slabs. The soap can also be made directly from soda, in place of potash, and then no salt is needed to separate it from the lye. The lye left in the kettle after removing the soap is a combination of potassium chloride and other impurities and much water; it is often used for cleaning woollen goods in fulling, but is of no real value and only dirties the cloth.

"Marseilles soap, also known as Venetian, French, or oil soap, is made of olive oil and caustic soda lye. There are two kinds, white and marbled. It is made in countries where olive oil is cheap and abundant, especially Spain, Portugal, Italy and France; and it is said to be made in these countries in stone pans.

"The Venetian and Spanish product is usually white in color, feels fatty, and has a not unpleasant odor. Externally it often has a gray crust, while the interior of the bar often looks pale green. The Venetian soap commonly has a colored, marbled look which, according to some, is due to copper sulphate, while others attribute it to indigo or to cochenille.

"Black or green soft soap is made now of hemp oil, then of fish oil, or sesame oil, and caustic potash lye. It

is green or yellowish and has a disagreeable odor. Sometimes it contains white dots, caused by the addition of tallow. The chief use of soap for dyers is in washing and bleaching silk (for which purpose Marseilles soap has been exclusively used), cotton, linen and washing woolens.

"To pronounce the good quality of any soap whatever, it should have a mild, not sharply alkaline taste; it should not make the hands feel greasy; it should be perfectly soluble in pure water and in alcohol. If it contains free soda or potash, these will destroy the goods instead of merely cleaning them. If it contains free fat, this attaches itself to the pores of the clothes and keeps them from taking the dyes so that spots result.

"Besides the soaps named, a special soap has lately been made by adding to a boiling caustic potash or soda lye as much waste wool or even old woolen cloths, as the lye can be made to absorb; this solution is filtered and evaporated until dry. Such soap has a black color and is probably the least grade of all soaps for washing and bleaching purposes."

Siftings.

Potash lye employed to substitute part of the soda lye, in the case of shaving soaps, has a two-fold advantage. Besides improving the texture and the ready lathering of the soap, is causes the lather to dry less rapidly during shaving.

Trade of the Philippines. The import and export trade of the Philippine islands, and especially the commerce between the islands and the United States during the calendar year 1903, is the subject of an interesting monograph about to be published by the bureau of insular affairs of the War Department. Important tendencies are noted in the imports of a number of commodities of special interest to the Reporter's readers, particularly in chemicals, drugs, paints, and dyes, mineral and vegetable oils, etc., while the development of the export trade in copra and in cocoanut oil is significant, especially as a constantly increasing quantity of these commodities is being shipped to the United States. In summarizing the trade of 1903 the monograph says:

"The imports into the Philippine islands in 1903 were valued at $33,811,384, as compared with $33,342,166 in 1902, while the exports of 1903 aggregated $32,396,746, as against $28,671,904 in 1902. The trade between the United States and the Philippines, incoming and outgoing, for 1903, was $16,908,526, or about 25 per cent of the total trade of the islands. Imports from the United States were $3,837,100, against $4,153,174 in 1902, a slight falling off in value. The exports to the United States for 1903 were $13,071,426, against $11,475,948 for 1902, an increase of $1,595,478. The balance in favor of the islands in 1903 was $9,234,326.

"A notable development of 1903 was the increased export movement of copra. Cocoanut groves, which are cultivated in many parts of the islands, are planted 200 trees to the hectare (two and a half acres). The trees bear within four or five years after planting and continue to produce for 100 years. A low price per tree for annual rent is $1 Mexican, or $40 gold a year per acre. Until recent years but little attention seems to have been given this distinctive article of commerce, its use being limited to the making of soap, candles and confectionary. Like hemp, copra is admitted free of duty into the United States; nevertheless France, preferring the sun dried nuts, has taken nearly all of the Philippine product since the industry assumed any prominence in the islands, the copra (cocoanut) oil being extracted at Marseilles, the soap trade center of the world; but according to recent reports the world's demand for certain food compounds, such as vegetable, cocoaline, or other products with suggestive names, has resulted in the use of the oil for that purpose and the building of several additional factories in Marseilles has been necessary. It is said that such articles are sold at a gross price of 8 or 9 cents per pound to thrifty Hollandish and Danish merchants who, at the added cost of a cent or two, repack them in tins branded 'dairy butter,' and as such ship them to all parts of the world; so perfect is the present consistency that the plain and unadultered fats now find as ready a market as butter. An especially ready sale is found in the tropics, where, by reason of the low melting point, dairy butter can not be used to advantage without the necessary refrigerating plant.

"The progress in copra production and the saving in freight through its shipment as cocoanut oil should result in an influx of American capital for the purpose of crushing these nuts in the Philippines and shipping the oil to this country. There is but little of the latter exported and it will be seen that the quantity of the archipelago's copra coming to the United States, while larger than in any previous year, is still but an infinitesimal part of the total; however, there are indications that the Philippine product may figure in our exports at an early date in view of these shipments occurring in the last few months of the year. At the present time a large quantity of unshredded copra arriving at United States ports is purchased from French Oceanica, the industry being quite extensively carried on in the island of Tahiti.

"Among the other products of economic value in the Philippines, ilang-ilang oil as an export amounted to $123,182, or about 50 per cent increase over the trade in 1902, the shipments to France advancing in about

the same proportion. Some consider the oil as equal in perfume of attar of roses, and by the greater yield of essence furnished a less expensive base. It becomes a strong competitor of the latter, the perfumers of the United States to whom exporting houses in Manila shipped nearly $10,000 worth last year, making it the base of some of their most expensive extracts. The ilang-ilang tree grows best in the Philippines, and it takes about seventy-five pounds of the flowers, worth from 8 to 15 cents gold per pound, to yield one pound of oil. The cost of manufacture is about $4 and it readily sells for $40 to $55 in open market, with the supply unequal to the demand. Sapan wood, which is very abundant in the forests of the Philippines, was shipped in larger quantities in 1903, amounting to over $50,000 worth, or considerably more than twice the value of the previous year. It goes principally to Hong Kong and furnishes a coloring matter employed in dyeing silks, damasks and other fabrics. There has been a general decrease in the quantity of indigo leaving the islands. The same may be said of gums and resins, straw goods and other items which go to make up the more restricted fields of native industry.

"The total imports of the class including chemicals, drugs, paints and dyes in 1903 amounted to $1,274,655, compared with $1,001,402 in 1902. The share of the United States in this trade declined materially during the year, amounting in 1903 to but $88,786, as compared with $97,237 in 1902. The British East Indies, China and the United Kingdom furnished the bulk of these articles during the past year.

"In illuminating oil there seems to be active competition between American and Russian producers to secure the Philippine trade, and the total amount going into the islands during the past three years has steadily increased from $417,638, to $535,207, to $562,693. Of these amounts, the United States furnished $77,342, $294,734 and $276,512 respectively, and Russia $266,398, $190,409 and $256,518. On the basis reported, the Russian has been somewhat cheaper than the American oil, a difference of 1 cent per gallon being shown by the figures for 1903, the quantity of the former product aggregating 2,707,669 gallons, as against 2,642,040 gallons from the United States. Purchases of lubricating oil advanced from $16,315 in 1902 to $44,765 in 1903, the supply as heretofore being obtained almost exclusively from the United States. Notwithstanding the gains indicated, the oil trade of the islands as a whole decreased slightly, which may be attributed to the heavy decline in vegetable oils from $152,000 to $53,049 in 1903."

JAPANESE SOAP. Soap making was unknown in Japan a few decades ago, but—like other things in Japan—it has made such rapid progress that at the present time Japan not only supplies its own needs in soap, but is building an increasing export trade. The stock for a part of these soaps consists of the cheap offal of the fisheries. Stores display neat boxes holding each three cakes of toilet soap at the price (per box) of 9 sen to 1 yen, equalling about 7 cents to 70 cents. Though the cheap soaps are, of course, of poor quality, it is said that in general the Japanese soaps are very creditable, and it is expected that they will not be long in competing successfully with the European products as far as East India. The exports in 1900 amounted to about $70,000, chiefly to China and British India.

Practical Soap Making and Aids from Science.

(Condensed from the Seifenfabrikant.)

The boiling of soap is, taken by itself, one of the simplest operations known—from a chemical point of view. But a certain measure of knowledge and experience, technical in character chiefly, is also necessary in practice. Any trained chemist is capable of preparing the products of saponification in his laboratory—but, to be in position to fill the place of the soapmaker, he still requires a course of training in actual practice. A practical soapmaker of experience, but without scientific training, will be a more useful soapmaker than the chemist who is a novice in the art; for the practical points are not acquired simply by studying the theory and, indeed, the technical execution in the factory deviates nearly in every point from what pure theory seems to prescribe as the proper means. It is not the fault of science that this should be so, for the latter is capable of yielding very exact results in just this connection; but, in practically executing scientific operations on a large scale, there occur so many accidental deviations from the usual, predetermined rules that they can not all be foreseen in every case. It is here where practice and experience come in.

Yet practice and experience will be all the more efficient when they are coupled with the ability to trace, on the basis of scientific knowledge, unexpected difficulties to their real source, for in this way the remedy for any difficulty is at once evident, without recourse to experiments on a large scale.

Generally speaking, the chemist will always appear as a mere theorist to the practical soapmaker; on the other hand, it can not be denied that without the chemist's co-operation soap making could never have attained its present state of perfection, and that a further development without the aid of the chemist is just about impossible. For these reasons it behooves the soapmaker to familiarize himself, as far as is within his power,

with those fundamental principles of chemistry which bear on his own special work. For example:

The holder of a quantity of grease appears at the soap factory and is open to receive an offer for his stock. The question is whether or not there is a material admixture of dirt or water in the grease offered. A sample is quickly melted on the water bath and a graduated glass cylinder permits promptly of a fair estimate of the impurities present; it requires only a practical soapmaker, not a chemist, to make this test. But there are other greases (from tanneries, etc.) which may be dark and of strong odor, yet fit to be used for certain soaps if rightly treated. Again, a grease may appear outwardly of good quality, dry and hard, and yet a proper examination may reveal an admixture of 50 per cent, and even more, of lime soap to which the hardness was due! To determine the actual fat present, the sample must be melted, decomposed with acid, dissolved in ether, and the weight of the residue left on evaporating found. This test is likely a little beyond most practical soapmakers, for he is not used to it.

It is nothing new to state that, in order to determine the amount of soap that resulted frow working up a certain amount of stock in other words, the yield of soap), the weighing of the stock and again weighing the soap obtained, is not by any means as reliable as is the determination of the fatty acid content of the soap made.

Again and again young soapmakers are perplexed by untoward accidents which occur to them in their work at the kettle, and it is only by years of observation, humiliating occurrences and sacrifices that they finally succeed in reaching an understanding of their difficulties. Should not this be a sufficient inducement to the young soapmaker to acquire early the greatest possible insight into the chemistry of the materials and processes with which he is working?

It is difficult to foretell at present the rich field which may offer itself to the soapmaker equipped with a better scientific understanding of his calling; it is probably safe to say, however, that the methods of saponification now in use have not yet reached their highest perfection and that in the matter of bleaching and deodorizing fats much is still to be attained.

There is, even at this day, a tendency to adhere to old formulas, and a great fear of deviating from the methods handed down to us by our predecessors, simply because the old, well trodden paths are sure to lead us to our destination. Yet these old paths are often round about, and a more direct route would frequently bring us to the point we aim at just as safely and with less trouble. But we must be "pathfinders" to find the better way; it requires a better training in the scientific aspect of our calling to discover our old mistakes and the way to avoid them. * * *

Effect of Perfumes on The Color and Odor of Soap.

It happens at times that toilet soaps change their odor or their color in an undesirable manner and quite unexpectedly. As a rule the causes of such change are in the soap proper, but there are cases where the perfumes are at fault.

H. Mann reports in the Seifensieder Zeitung the results of experiments made for the express purpose of ascertaining the exact effects of each separate perfuming ingredient on the color of the soap, as well as the lasting quality of the perfumes. For this purpose each essential oil or other perfuming material was added, quite singly, to a neutral and very white soap, in an amount sufficient to give the freshly made soap a reasonably strong odor, and the prepared specimens were then kept for six months. An examination after this length of time demonstrated that many perfumes affect the color of the soap materially, and that many of them—when used singly—are rather ineffective, while in combination with others they are well known to produce good and lasting effects. The test also shows which perfumes can be safely used for white soaps. The following are the results in detail:

THE ODOR was found to be

a. "Very strong" in the case of ambrettol and yara-yara.

b. "Very good" in the case of aubepine, geranium (bourb.), heliotropine, irolene, artificial musk, artificial neroli, trefle, sandalwood oil, tolu, turanol, vanillin, and wintergreen.

c. "Good:" Amanthol, oil bergamot, bourbonal, cananga, cumarin, eucalyptus, eugenol, oil of pine needles, geranium (palmarosa), oil gingergrass, orris oil (concrete), iso-eugenol, iso-safrol, ionon, oil of kuromoji, lavender, lemongrass, linaloe, mace, mirbane, clove, nerolin, patchouli, balsam peru, oil petitgrain, peppermint, rose oil (true and artificial), oil rosewood, rosemary, sassafras, safrol, star anise, storax, terpineol, oil thyme, verbena, civet (true), oil cinnamon (Ceylon).

d. "Finer:" Anethol.

e. "Weaker:" Aspic, fennel, oil jasmine, reuniol.

f. "Weak:" Amyl acetate, benzaldehyde, infusion of benzoin, oil bitter almond, cedar wood, coriander, gerrniol, caraway, opoponax, ylang-ylang (true and artificial).

g. Infusion of orris is characterized as "quite changed and bad;" true musk as "weaker, but fine;" muguet as "good, but somewhat lost;" oil Portugal as "very weak and changed."

THE COLOR of the soap specimens after six months is described as follows:

a. "Good in specimens perfumed with amandol, ambrettol, amyl acetate, anethol, aubepine, benzaldehyde,

oil bergamot, bitter almond, cananga, cedar wood, citral, lemon, coriander, eucalyptus, fennel, pine needles, geraniol, geranium (palmarosa), gingergrass, infusion of orris, iso-eugenol, iso-safrol, ionon, kuromoji, linaloe, mace, musk (true), muguet, opoponax, patchouly, peppermint, oil of rose (true and artificial), rosemary, trefle, sandalwood, sassafras, safrol, star anise, terpineol, thyme, wintergreen, ylang-ylang, yara-yara, civet (true and artificial).

b. "Gray:" Aspic, clove, balsam peru, storax, vetiver.

c. "Yellowish:" Carven, oil cassia, eugenol, geranium (bourb.), irolene, jasmine, caraway, mirbane, musk (artificial), oil petitgrain, oil Portugal, reuniol, verbena, cinnamon (Ceylon).

d. "Brownish:" Bourbonal, tolu, vanillin.

e. Infusion of benzoe is referred to as "bad" in color."

Cold-Made Soap with Silicate.

(Translated from the Seifensieder-Zeitung.)

Among the many filling materials employed in cheapening the cold-made cocoanut toilet soaps, silicate of soda has long been known. As compared with other fillers, it has the advantage of possessing some detergent power of its own; it softens the water used in washing. To prevent soaps filled with this material from assuming a rough appearance and excessive hardness on keeping, it is advisable to employ an adequate amount of potash solution, or to make a small additon of glycerine or of wool fat.

Another important point in soaps so made is the temperature of the oil and of the lye when they are crutched together; there is a high degree of spontaneous heat developed in the mass, and for this reason they should be crutched until they are rather thicker than usual and afterward the cooling off in the frame should be rather favored. Soaps of this kind, if properly made, press well, appear well, keep well, and do not waste excessively in use.

A suitable formula would be:

160 lbs. cocoanut oil.
20 lbs. glycerine.
84 lbs. 38° soda lye.
160 ibs. silicate, mixed with
28 lbs. 38° soda lye and
8 lbs. 30° potash solution.

The oil, at 75 to 85° F., to which the glycerine has been added, is run into the crutcher and the lye worked in. When the mass is homogeneous there are added the previously mixed silicate, lye and potash solution, and directly after these the color and perfume. The crutching is continued till the soap is quite thick and the soap then framed without covering other than a thin board.

In the case of a soap made partly of tallow the following proportions are recommended:

150 lbs. tallow.
250 lbs. cocoanut oil.
30 lbs. wool fat.
200 lbs. 38° soda lye.
400 lbs. silicate, with
70 lbs. 38° soda lye, and
20 lbs. 30° potash solution.

The proceeding is the same as before mentioned, but the temperature of the stock in the cruteher should be about 100° F.

Change of Trade Rules.

At the annual convention of the Interstate Cottonseed Crushers' Assoeiation, held at St. Louis early in June, certain amendments of the rules governing transactions in cottonsced produets were passed, the following being the changes of interest to our readers:

Rule 9.—*Soap Stock.* All sales, unless otherwise agreed upon by buyer and seller, are made upon a basis of 50 per cent. fatty acid, not to fall below 40 per cent. If containing less than 40 per cent. fatty acid, soap stock shall not be considered merchantable. Delivery to be made in iron-bound, hard-wood packages or tank cars. A contract tank car of soap stock shall be 50,000 lbs., unless otherwise specified. Nothing in this rule shall be interpreted to fix the amount of draft to be drawn against shipments of soap stock.

Rule 32.—*Buyers' Tanks.* In case the buyer furnishes tank cars, shipment of same by buyer shall be as follows:

(1) Quick shipment of empty tank cars shall be within two working days.

(2) Immediate shipment of empty tank cars shall be within five working days.

(3) Prompt shipment of empty tank cars shall be within ten working days.

(4) Specified shipments; tank cars shall be forwarded by buyer in such time that under the ordinary course of transportation the tank cars shall reach the seller in time to allow him to make deliveries as per contract. In case the buyer does not ship tank cars as specified in the four paragraphs above, the seller on arrival of the tank cars at his mill, at his own option may or may not fill them, but in case he does, shall be allowed to charge the buyer $2 per day for each tank car for every day's delay beyond the expiration of the contract time of shipment (but he must declare his intentions in this regard within 24 hours after expiration of the contract time); provided that the $2 per day is a demurrage charge only, and that nothing in this rule may be taken to limit or interfere with the rights of cancellation or limit the measure of damages under the contract, but in case it is

shown that the tank cars were shipped in due time as specified above and delayed en route, the seller must fill them, charging the buyer $2 per day per tank as specified above, and buyer must accept them under the contract, railroad records to govern as to the time of shipments and deliveries of tank cars. In case a tank car is disabled or lost another tank car is to be forwarded promptly by buyer to take its place, it being understood that the arrival of tank cars at the town where mill is located shall constitute delivery as specified above.

Rule 33.—Seller shall, in all cases, load tank cars within 48 hours of arrival at destination and to their full capacity, when within contract requirements. In case the seller does not load the tank cars within 48 hours after their arrival he shall pay the buyer $2 per day for each tank car for every day's delay beyond the 48 hours. In this case destination means mill when within free switching limits of the town where mill is located. The converse of this rule shall apply to buyers handling other tanks than their own.

Tank cars delayed during settlement of dispute by arbitration or otherwise shall be subject to demurrage at the rate of $2 per day, less the customary unloading time of 48 hours, the party in error to pay the demurrage. Seller shall, in all cases, inspect tank cars and clean them, if necessary, at the expense of the buyer, charging him the actual cost for same.

Rule 35.—In all time contracts it is understood that the mill is to run to its full capacity and to use every means known to produce goods of the quality stipulated when so named, and if failure to do either or both of these appears intentional, then both actual and consequential damages may be awarded by the arbitration committee.

(2) In case mill burns the contract is void; provided, however, that finished products on hand at the time of the fire covered by existing contracts and not burned or damaged shall still apply thereon.

Rule 36.—All claims against shipments of cottonseed products must be made within five days after arrival at American points of destination (except claims for demurrage on tank cars, in which case 30 days shall be allowed in which to file claims); except a product for export, in which case 20 days shall be allowed after arrival at American point of destination.

Rule 43. *Soap Stock.*—When in tank cars, samples shall be drawn from flowing stock at regular intervals as tank is being loaded, in the presence of a representative of the seller as provided in Rule 46. Samples shall be taken in the approximate proportion of 2 pounds to each 10 barrels and a thorough mixture of the same. From this mixture three 1-pound samples shall be taken, which shall be hermetically sealed in can or Mason jar with rubber gasket. The first to be forwarded to the buyer, the second to be retained by the seller and tested by his chemist, and the third to be retained intact, hermetically sealed and properly marked for identification by the seller. If impractical for the buyer to be represented when samples are drawn at the mill, samples shall be drawn by the buyer at destination in the presence of a representative of the seller or by a public inspector. In the event of difference in the test between the seller's chemist and the buyer's chemist, the third sample shall be submitted to a disinterested chemist to be agreed upon.

If in barrels, samples shall be drawn with a trier from each and every barrel, and a gallon sample from the mixture, which shall constitute the test for the lot, samples to be drawn from tanks or barrels by sampler.

Rule 48. *Arbitration.* (1) Arbitration may be held at New York, Memphis, Atlanta, New Orleans, Chicago, Dallas and Galveston as agreed by the parties at difference, and, in case they cannot agree, then as determined by the secretary of the association. At the above mentioned points and all others, where application is made for not less than ten members, and in his opinion it is advisable, the president of this association, as soon as convenient after his election, shall appoint a permanent committee of arbitration to consist of five members, any three of whom shall constitute a quorum for the transaction of business. Each committee shall meet, upon call of its chairman, as often as is necessary for the prompt dispatch of business, and as compensation shall receive for each such meeting a fee of $25 to be divided as later provided, together with traveling and hotel expenses of the members actually in attendance and serving, which fee shall be divided equally against losers in such cases as may be acted upon at each meeting.

(2) No change.

(3) No change.

(4) No change.

(5) No change.

(6) No change.

(7) Should any member refuse or delay for three days to pay in full any award of the arbitration committee, the other members to the arbitration may report the matter to the chairman of the permanent committee on arbitration, who shall at once proceed to satisfy himself as to the correctness of the complaint, and if confirmed shall at once notify the president of the association, who shall immediately, through the secretary, demand of the party at fault payment; and if such payment is not made within three days thereafter, the member shall be immediately expelled from the association, and the president, over his signature, countersigned by the secretary, shall so notify him, and at the same time and in the same manner issue a circular letter to every member of the association, notifying them that such member has been expelled from the association for not conforming with the provision of Rule 48.

Leave Perfumes To The Flowers.

Under the above heading a Southern paper, the Florida Sun, has an editorial of rare stupidity. We print it below (as a curiosity), without comment, other than to say, that any man who believes and states openly that civilized people have no practical use for the sense of smell, can have but little use for any other of his senses.

Here is the editorial:

Of all the five senses given to man, the sense of smell is the only one that seems to be of no practical use.

Of course we speak of civilized man, for it is only the advance of civilization that has caused this sense to become of no practical use.

The savage uses it to track his enemy, to detect his presence, or to point out to him what to reject as food.

As the Creator, who endowed man with the faculties for his development, must have intended man to advance from the savage state and become civilized, it would seem that the sense of smell was given to him solely for his pleasure.

Following out this plan, the whole vegetable kingdom created by the same infinite power contains very few bad smelling plants compared to the large number of fragrant ones.

Man has endeavored to help out nature by creating perfumes from animal and vegetable matter to pander to the pleasures of the only sense that seems to have been given solely for pleasure.

It must have not been intended for man to succeed at this, for hundreds of years of effort have not resulted in the production of a single perfume that can compare in fragrance to that of a rose, a lily, a pink, and of scores of other plants.

Yet some men and some women load themselves with these artificial perfumes and go about among their fellows reeking with it.

It is a habit which has quite the contrary effect to that intended to be produced by its indulgence.

It offends the delicate sense given us for our pleasure instead of being acceptable to it.

The only excuse that can be offered for the necessity to use perfumes—to disguise, hide or offset disagreeable odors—is itself enough to condemn its practice.

Absolute cleanliness of the person is all that is necessary to do away with this excuse.

To the men who use perfume we say:

Use the bath tub with plenty of soap and water instead.

To the women who, as a matter of course, are without the only excuse for it and use perfume solely as a matter of choice, we say:

You are more attractive without it.

The Chemical Factor in Human Progress.

(*Continued.*)

And again, now that we are coming to live in an age of steel, note that steel is a chemical industry. To make steel, we must decarbonize iron to a certain point, and to do this economically Bessemer introduced a method which revolutionized the whole industry. Can any one tell what the debt of the world is to cheap steel? Any one who will bear it in mind will find himself giving hundreds of answers to it. Try to trace out for how many of what are called the necessities of daily life we are indebted to cheap steel, and one cannot but be surprised.

The subject of the metals in general is worth attention. Chemistry has brought our means of extracting them from their ores and their subsequent refinement to a remarkable degree of perfection. We have numerour alloys which are of daily service, as phosphorus-bronze, friction-metal, gun-metal, and a thousand other useful inventions, all tending to cheapen articles and, indeed, in many cases to beautify common objects. Compare the doorknobs and hinges tastefully made of bronze with the common ones in use only twenty years and we must never underestimate the power of this. And now we have cheap aluminium. It looks as if this ago. This all means the art education of the people, may be the metal of the future. Brilliant, wonderful in its many properties, and more remarkable still in the fact that every clay-bed is a mine of it. How irritating this has been to chemists for years can well be imagined. Incalculable stores of this beautiful metal all about us and no means to extract it. If aluminum can be modified as iron now is, and given properties akin to wrought iron and steel, then the future will be the age of aluminum.

If one were to ask how the state of civilization of a country should be judged, one would probably be told how many churches there were, attention would be drawn to the volume of business done, the fine hospitals, the excellence of the police, the commodious jail, the tax rate and many other prominent features of the place. The chemist, however, would simply determine the amount of sulphuric acid used, directly or indirectly. In other words, almost all of the articles we use involve either directly or indirectly in their manufacture the use of sulphuric acid. This manufacture is carried on a scale so vast that a fair idea can hardly be given of it. Every detail has been studied and studied by scores of chemists. Each reduction in the cost of making it has cheapened thousands of articles. In the manufacture of bleaching powder there was once a great waste. The acute mind of Walter Weldon turned this loss into a

souree of profit and the price of chloride of lime was reduced. Every time that we buy a piece of white paper and admire its whiteness and cheapness, we must remember that we are indebted to Walter Weldon.

Indeed, in the matter of paper, note how striking has been the progress. Cheap paper means cheap books, cheap newspapers, cheap knowledge, education of the public. Good paper preserved eyesight. I need not say that paper is really a chemical manufacture. But little progress would be made in turning wood into paper without the chemist. And note again the future of paper. We have paper car wheels, paper gas pipes, paper water pipes, paper pails, paper stoves, paper chimneys, paper boats, paper forts, etc., etc.

One of the very important results of the study of chemistry has been the gradual change of empirical and wasteful processes of manufacture into rational and profitable methods. Every year show progress in increasing the yields of manufactured products, and also increase in purity. Wastes are utilized, manufacturing costs are decreased, labor is made more efficient, trade expands and profits increase.

In 1739 Dr. Clayton, Dean of Kildare, first distilled coal. But it was the end of the century before gas was practically introduced as an illuminating agent. Imagine one's sensation on first being asked to put a network of piping into one's house to convey a combustible and poisonous gas. The joints might not be tight, the cocks might leak; we might be poisoned by the thoughtlessness of any one who might not shut them off, or, indeed, the house might be blown to bits should the gas escape and ignite after it had become mixed with air. Yet it does not worry us now, even though all these things do come to pass not infrequently. From Dr. Clayton's experiments has arisen a vast industry with complicated side-branches. Gas, coke, colors, medicines, disinfectants, delicate flavoring essences and a host of other inventions have followed in a steady stream. There has been no end to the discoveries in this field. In Europe gas has become almost a waste product, so valuable have its by-products become.

The invention of artificial light has extended the available term of man's life; by giving the night to his use it, has by the social intercourse it encourages, polished his manners and refined his tastes, perhaps as much as anything has aided in his intellectual progress.

It is very interesting to trace the development of many manufactures, as for instance, the introduction and perfection of glass making, which allows us to avail ourselves of the best medicine there is, sunshine. What a world of happiness lies in that word, "sunshine!" Disease-germs are paralyzed by it. Plenty of it prevents dark deeds. If we ever feel like being thankful, let us that our little ones can play in the sunshine, and that we can have sunshine in our houses free of cost and without tax. How little one realizes the convenience in the use of glass and china articles. That hard, smooth surface which can be so readily cleansed, and which makes our tables so attractive and our food so palatable. We shall find that much of our pleasure, and, indeed, a good deal of our health, is dependent on glass and porcelain. The chemist has done hard work for us on these articles, for there have been many neat chemical problems involved. We can now give glass some valuable properties. We make wool of it, spin it into yarn and weave wonderful dresses of it; make wigs of it, cover steam pipes and fill floors with it, make railroad sleepers out of it. Perhaps, in time, we shall be able to turn it on a lathe, or even to live in a glass house without fear. Who knows? Does not the illustrious Hofmann say, "With the gods and the chemists all things are possible?"

There are many interesting applications of chemistry which have been forceful factors in the development of civilization. The manufacture of soap, for instance, the use of which has also been taken as an index of civilization, has been immensely improved by the labors of the chemist, and it would be easy to trace the beneficial effects of it on the health of a nation. It is true that we have not the public baths of the Romans, or places where all of the poor may bathe, but we have the next best thing—cheap soap.

Then there are remarkable chemical improvements in the arts of dyeing and printing textiles, by which good clothing has been made accessible to the poorer classes. Cleanliness and good clothing are no small factors in civilization. There have been astonishing discoveries in the field of fermentation, the middle ground between biology and chemistry, from which our ideas about disease-germs and ptomaine poisons have arisen, and due to which treatment of many diseases has been radically altered for the better. In fact, the whole of antiseptic surgery, which allows of operations never dreamed of in past years, has become not only possible, but of daily occurrence. Thousands and thousands of useful lives have been saved by the application of these discoveries.

And so our increasing knowledge of the relations of things will enable us in time to prevent disease. The average death rate in our cities is far too high. The average duration of life is about ten years too short. There are over 100,000 unnecessary deaths every year in the United States. In time we shall see more of true death, Euthanasia, or old age. How well Richardson* describes this: "Without pain, anger or sorrow, the intellectual faculties of the fated man lose their brightness. Ambition ceases or sinks into desire for repose; ideas of time, of space, of duty, languidly pass away. To sleep and not to dream is the pressing, and step by step, and

still pressing need, until at length it whiles nearly all the hours. The awakenings are shorter and shorter, painless, careless, happy awakenings to him of a busy world, to the merry sounds of children at play, to the sounds of voices offering aid, to the efforts of talking on simple topics and recalling events that have dwelt longest on the memory, and then again the overpowering sleep. Thus on and on, until at length the animal nature is lost; the intuitive and merely animal functions now no longer required to sustain the higher faculties, in their turn, succumb and fall into inertia. This is death by Nature, and when mankind has learned the truth, when the time shall come—as come it will—that 'there shall be no more an infant of days, nor an old man who hath not filled his days,' this act of death now, as a rule, so dreaded because so premature, shall, arriving only at its appointed hour, suggest no terror, inflict no agony."

Chemistry has even dared to make the study of life a matter of investigation. Dr. Oscar Loew has indicated that in live albumen there is an atomic complex known as the aldehyde group, and in dead albumen it is not present. A striking inference of this fact is that substances which are known to have an energetic action on the aldehyde group exert also an intensely poisonous action on living protoplasm, and certain substances have on this induction been examined and really found to be violent poisons. Could we reconstruct the aldehyde group in a dead protoplasm? And if so would the protoplasm again be alive? Who can say? It is a mysterious subject and the discoveries but make it more mysterious. But then it is darkest before daybreak.**

Even such a little matter as a match represents quite a number of chemical phenomena and ingenious applications of chemical discoveries. It is curious to think of what added power has been given to man by his ability to make fire so easily. The idea of fire leads me to speak of explosives, for there are some very interesting facts to be derived from the study of this subject. If we had time to investigate the effects of gunpowder in history we should note some striking results. Ancient history is largely a history of war. Disputes were settled by force of arms—physical force. Rulers ruled by force. Blood flowed on slight provocation. Might, not right, was the rule. Weapons were of the crudest kind, and wars often lasted for years. Later on the ruling classes clad themselves in armor and then as McElroy has so well explained in his article on "The Musket as a Social Force," for many years the world was at the mercy of the "Man on Horseback." He was invulnerable in his armor, and with sword and spear tyrannized, brutalized and slaughtered as his humor struck him. The serfs fared badly in the early days. In the "war of the Jacquerie," in 1348, there was an exciting serf-hunt conducted in one of the French towns, and after three weeks over 20,000 miserable men were run to earth and killed. The man who could strike the heaviest blow was ruler in those days.

Then in the fourteenth century someone invented gunpowder, and then a queer sort of gun, a kind of two-inch gaspipe with a touchhole. This gun was fastened to a stick, which one man held, while a second applied the fire. The ball weighed a pound and traveled scarcely two hundred feet, so weak was the powder. Crude as the whole contrivance was, and tedious as it was to fire off, it curled up the man on horseback in the dust and left him a waste product on the land. Those who had robbed the farmer of the fruits of his hard labors, now went to fertilize the crops, a most admirable adjustment of Nature, even though it was somewhat belated. Soon gunpowder and the gun were improved, and by their aid the robbed man "re-clothed himself with the rights that had been torn from him by a thousand years of the despotism of the "Man on Horseback!"

During the last fifty years explosives have been brought to a high state of perfection. Chemistry has placed in the hands of men agents that are so powerful that they cannot be resisted. Trace the progress of a nation by the record of its conquests, and note how chemistry has given it, perhaps, the majority of its tools, its explosives, its system of feedings, its medicines, and so on through a long list. It will not be long before war will be impossible; in fact all conflicts impossible. The dynamite gun will blow a fort to dust, the submarine boat or the electric torpedo, guided by an unseen hand miles away, will send a ship into the clouds. The balloon, dropping explosives and inflammables, will wipe a city from the face of the earth as a child rubs a picture from a slate. An explosive shell, filled with the proper chemicals, will poison a whole army. The prick of a needle, coated with virus, will sow incurable disease, and you may select from a catalogue nauseatingly long. A gill of typhoid germs dropped into the water reservoir of an ordinary town will leave a few to tell of the horrors that followed. War will in time mean simply extermination of both parties. Pure arbitration, intellectual investigation of the question, the discovery of the principles and laws involved in the matter, and careful adjustment must come in time. Oppression, tyranny and bossism are to pass away. Knowledge is the possession of humanity, not of the rich alone, or of the powerful, but it is to be the birthright of the citizen. An irresistible power has been placed in the hands of the oppressed. First we had the slave, then the serf, now it is the wage-worker, the laborer. The capitalist has money, the laborer has dynamite. It is about as hard to know what to do with one as with the other.

Neither can ever rule, and this phase, like the preceding ones, will slowly pass away. Any attempt to control others selfishly and wrongfully will be defeated by the irresistible power of knowledge of right.

Look abroad and notice how much nations take from each other without fighting. They slap each other's face and call each other bad names, but they don't fight. It is true that they support immense armies and armaments, but the time is coming when these armaments will cost so much for their support that to avoid bankruptcy they must be given up. The swords must be turned into plowshares and the men must go to work to aid in supporting instead of being supported by others. A peace of nations, a bankruptcy of nations, or an extermination of nations are the three alternatives to-day for Europe. So much Bismarck saw.

Force being neutralized, the conflict is to be one of intellect, reasoning based on an exact knowledge of facts. Physical force is already at a considerable discount. Educated brains are the important factors of success to-day.

Flower Culture in Southern France.

United States Vice-Consul Piatti of Nice, in an official report give the following information regarding flower farming in Southern France:

Land having a southern exposure is invariably chosen, and terraces upon hillsides, of which there are very many in this moutainous district, have often given the best results. The ground is well dug and well manured (artificial products for enriching the soil have as yet been used only to a limited extent); beyond this no special treatment is used, cultivators proceeding as with ordinary crops. In exposed places precautions are taken to cover the plants during December and January, when frosts are liable to occur. These are very light and never sufficient to affect the roots of the plant, and the coverings are intended to protect the blossoms, which during the winter season are sold to florists and are sent to the northern cities of Europe. Roses and other perennial plants are cut down, dug around, and manured in September. The winter crop of blossoms, coming from November to February, is sold to florists. The plants rest until about May, when a second crop of blossoms is produced, which is sold for purposes of distillation. As a protection against insects and diseases, sulphur, lime and the Bordeaux mixture for vines are generally the only preventive measures used.

The flowers used are those of the acacia, jasmine, jonquil, mignonette, rose, orange, pink, tuberose and violet.

The prices paid for the different kinds of blossoms vary naturally with the supply. Very high prices range only when, for some reason or other, any special crop fails. As a general rule, the crops, being of a very perishable nature and requiring to be used as soon as practicable after being picked, are sold at prices fixed by the distilleries themselves. The producers are therefore more or less at the mercy of immediate buyers in the district as the loss through spoiling, freight and other expenses would be very serious, even if it were practicable to forward the crops for long distances to other markets.

The market of Grasse being the principal one, the report gives the prices paid there per kilogram for these blossoms during the past six years. It should be noted that these prices are for the bare blossom alone, and in the case of roses for the bare rose leaves.

Description.	1898.	1899.	1900.	1901.	1902.	1903.
Parma violet	$0.53	$0.43	$0.53	$0.43	$0.43	$0.48
Acacia	.39	.62	.48	.81	1.15	1.15
Jonquil	.39	.62	.82	1.01	.48	.76
Mignonette	.19	.24	.24	.24	.24	.19
Roses	.10	.11	.16	.19	.15	.13
Orange flowers	.10	.09	.12	.17	.10	.09
Jasmine	.27	.29	.48	.57	.67	..
Tuberose	.33	.33	.48	.43	.48	..
Pink or carnation.	.06	.06	.06	.06	.07	.06

Some of these blossoms are distilled; from others the odor is extracted by absorption with grease—the "enfleurage method.

The reporter regrets his inability to ascertain the approximate quantity used at Grasse, statistics not being in existence.

In 1903 the buyers fixed a price of 6 cents per kilo for the crop of orange, and in many sections proprietors preferred to lose their crop, as the price did not cover the expenses of picking and sending to market.

Referring to the Nice market, the reporter says the Rise de Mai is the one used principally for distilling. Of late years, however, a quantity of Bobrinski roses and Paul roses have been used. The quantity of Roses de Mai distilled annually here is about 120,000 pounds. The price per kilogram (2.2046 pounds) has varied for years between 10 and 18 cents—this last price in 1901. This year the price was 13 cents.

The following table shows the annual production and the prices paid per kilo in the Nice district during the years of 1901-1903:

Description.	1901. Production. Pounds.	Price.
Violets	38,000	$0.43
Acacia	2,000	1.06
Mignonette	4,000	.21
Orange flowers	180,000	.18
Jasmine	16,000	.49

	1902. Production.	
Description.	Pounds.	Price.
Violets	30,000	$0.43
Acacia	1,600	1.15
Mignonette	5,400	.19
Orange flowers	290,000	.10
Jasmine	2,000	.57

	1903. Production.	
Description.	Pounds.	Price.
Violets	24,000	$0.48
Acacia	(not harvested)	
Mignonette	6,800	.10
Orange flowers	230,000	.10
Jasmine	(harvest in progress)	

Of jonquil the production is about 700 kilos annually, selling at 57 to 95 cents per kilo.

Of tuberose the production is about 3,000 kilos, yielding 39 cents per kilo.

Of pinks 18,000 to 25,000 kilos are grown, bringing an average price of 6 cents per kilo.

Of orange leaves 75,000 to 100,000 kilos are gathered, bringing about $1.90 per 100 kilos.

Regarding Mentone, there is but one distillery there, and the only produets distilled are the orange leaves and flowers. The average price paid for young leaves is 18 cents per kilo and 10 and 12 cents for flowers. The aggregate crop of both may be calculated at about 350,000 pounds, and the entire output of the distillery is contraeted for by a well-known German manufacturer of eau de cologne.

The crop of rose geranium leaves has attained large proportions in this district and the annual production now reaches not less than 3,300,000 pounds. One hectare (2.471 acres) will produce 55,000 to 66,000 pounds of leaves, which are sold at from $1.14 to $1.33 per 220 pounds. The product in pure essenee of each 2,204 pounds is 2.2 pounds. A small quantity is annually imported into Grasse from Italy, about 65,000 pounds are brought from Africa, and 55,000 pounds from Ile de la Reunion, near Mauritius. It should be borne in mind that what is known as "Turkish geranium" in the United States is simply a superior oil of palmarosa manufactured in British India.

Cotton Oil.

(From an Article by E. Lehman Johnson in the National Provisioner.)

The fad of trying by the arts of the chemist to make good goods out of poor stuff has been a most expensive one to the cotton oil trade. It is high time to drop it and to realize that if the delicate flavor of cotton oil—which appeals to the public taste and which alone will make cotton oil and its compounds popular and higher priced—is to be retained, we must go back to making the very best crude cotton oil that can be made out of the seed.

We want crude oil so good that it requires no harsh treatment to refine or to bleach it, so good that even after refining and bleaching its delicate flavor and sweetness may still be retained.

The crude cotton oil mills have the solution of higher price of oil in their own hands, for no oil or lard refiner who expects to remain in the business and to establish his brands will select off, or hardly prime, crude oil to refine up for the nices uses if the crude oil mills furnish an abundance of the best crude for such uses.

In order to make this abundanee of the best crude oil two things are neeessary. First, the oil mills must get sound seed and keep them sound till made into oil. Second, they must follow strictly the American method of manufacture.

In this connection the writer wishes to say that Secretary Cortelyou of the United States Department of Commerce and Labor has offered to conduct an investigation into the cause and cure of the heating of cotton seed if the oil mills will give him accurate figures showing the extent of the money loss from this cause. I therefore urge all braneches of the cotton oil industry to send me as soon as possible any reliable information in their possession relating to the heating of cotton seed and the injury to oil, meal, etc., from this cause. When possessed of information of this sort I hope to secure some definite results in improving the general average quality of our raw product cotton seed, without which no general improvement in the quality of our oil is possible.

Now, as to manufacturing the oil after we get the seed, there is a deeided disposition on the part of the oil mills to depart from the ways of our fathers, which made our oil so good that it stood unrivalled in the markets of the world and raised it from a mere soap grease to the level of the frying pan and the table. The present tendeney is toward the English method of manufacture, which makes cotton oil only fit for the soap kettle. Mr. C. Fitz Simons, in a recent artiele in the Charleston News and Courier, says: "The Eneyclopedia Brittanica, published in 1884, gives a list of nineteen oils used for food, and does not place cotton seed oil in this class, describing its use for soap, lubricant, etc."

The vital and essential difference between the English and American methods, as far as quality of oil is concerned, is that the English cook the hulls and kernels of the seed together, straining both oil and cake with the tannic acid and coloring matter of the hulls, while the American method as practieed by our fathers sepa-

rated the hulls completely from the kernels and cooked the kernels alone. The English manufacturer turns all the hulls into cake at the expense of both yield and quality of oil, and looks for his profits to the undecorticated cake, for which he has a good market, while we have not. The American manufacturer makes hulls as well as cake, and looks to the superior quality of his oil for his profit. The freer the meats are from hulls while cooking, the better the oil and the lighter the treatment necessary to refine and bleach it, hence the sweeter and more palatable it is.

The fact that the hull of oil bearing seeds is injurious to the oil when cooked with the kernels is true of all oils, and in the making of peanut oil the complete separation of the hull is a settled principle of manufacture. In spite of this well known fact our American oil mills are allowing year by year an increasing quantity of hulls to go into and remain with the meats while being cooked, caring little for the effect on the oil so long as it "passes." This policy is suicidal, as shown by the low price of both cotton oil and compound lard at the present time. The English policy of making more cake per ton of seed at the expense of the quality of the oil is largely responsible for this heavy decline in oil.

The safe course for those to pursue who wish to hold up our markets in future years, both for compound lard and cotton oil by making the oil better, but who can not sell to advantage the highly concentrated cake or meal which results from the removal of all the hull, is to follow the writer's improvement of the American plan, which involves five different steps. First, the removal of the hull from the seed, as at present. Second, the removal of the hulls and lint from the meats. Third, the cooking of the meats free of hulls or lint. Fourth, removing a small percentage of the hard part of the hull, together with the fine meats, from the hulls in the form of lintless cotton seed bran. Fifth, adding this bran by exact weight or measure to the cooked meats so as to secure the maximum porosity of the cake and the maximum increased yield of oil consistent with the ammonia or protein content desired or required for the meal, without injury whatever to the oil.

Pastes.

The variety of materials that can be used for the production of pastes are limited: wheat and rye flour, rice starch, cornflour, and farina or potato starch, are the usual materials, the last one especially so, because of its cheapness. The first two materials named differ from the last three substances, they contain gluten as a constituent, whereas, the last three substances are starches only.

The following table shows the percentages composition of the four cheap materials. Cornflour is used more largely for edible purposes than for paste making.

Composition of Wheat Flour.

70.0	per cent. starch
2.4	per cent. woody fibre
12.4	per cent. nitrogenous matter
1.4	per cent. fat
1.8	per cent. ash
11.6	per cent. water.

Cornflour Starch.

68.4	per cent. starch
2.5	per cent. woody fibre
9.9	per cent. nitrogenous matter
4.6	per cent. fat
1.5	per cent. ash
13.1	per cent. water.

Rice Starch.

76.5	per cent. starch
0.6	per cent. woody fibre
7.8	per cent. nitrogenous matter
0.9	per cent. fat
1.0	per cent. ash
13.2	per cent. water.

Potato Starch (Farina).

26.7	per cent. starch
1.4	per cent. woody fibre
2.0	per cent. nitrogenous matter
0.2	per cent. fat
1.0	per cent. ash
14.7	per cent. water.

It will be noted that potato starch contains nearly 75 per cent. of water—nearly six times that contained in the other substances, while the nitrogenous substance or gluten is very much smaller. The gluten is vegetable fibre, and when heated with water to a certain temperature, turns an opaque grayish-white, whereas potato starch is of a semi-transparent mass when treated in a similar manner. It is necessary to bear this distinction in mind as the presence of gluten modifies the product. The process of converting the starchy mass into a suitable gluten substance, for example, a farinaceous body containing much gluten will form a stiff stodgy mass, whereas potato starch can be produced of a glairy consistence but little thicker than the white (albumen) of egg.

AGGLUTINANT MADE OF FARINA (POTATO STARCH).

We will consider this substance first, because it is largely used on a commercial scale by several firms of paste-makers in preparing agglutinant for cardboard and bookbinding industries.

Starch is a vegetable carbo-hydrate, that occurs abundantly in all plants. It has the composition $C_6H_{10}O_5$, or some multiple of these numbers. Starches may be distinguished from each other by the aid of the micro-

scope, owing to the difference in size of the granules. The average diameter of the starch granules are represented in this table:

Beetroot	0.004 m.m.
Millet	0.010 m.m.
Rice	0.022 m.m.
Cornflour	0.030 m.m.
Wheat	0.050 m.m.
Sugar	0.070 m.m.
Arrowroot	0.140 m.m.
Potato	0.185 m.m.

FACTS TO REMEMBER.

Cold water, alcohol or ether will not dissolve starch granules; but when starch is heated with water to between 70° and 72° C. (155° to 151° F.) they swell and split open, forming a thick mass called starch paste. By boiling this paste with a larger quantity of water, the particles of starch became so finely divided that they pass through a filter, and if boiled for a length of time, the solution becomes clear, and the starch is rendered soluble. By adding alcohol to such a solution a white amorphous powder of soluble starch is precipitated.

By heating starch to 166° C. (340° F.) it is converted into dextrine or British gum, but a similar conversion product is brought about by the aid of a little nitric acid on starch, as we shall see when treating of gums.

One of the most distinguishing tests for the presence of starch in a substance in the employment of iodine as an indicator, because starch in both its insoluble and soluble modifications forms a deep blue compound with pure iodine; this blue color is destroyed at a temperature between 100° C. 212° F.), but it reappears on cooling; this blue is only produced by starch; dextrine or any other isomers of starch do not produce it.

Strong sulphuric acid in the cold, dissolves starch forming a compound acid; nitric acid also dissolves it, and on adding water to the solution, a white substance called xyloidine is precipitated. This is a substitution product, being starch in which one atom of hydrogen is replaced by nitrogen dioxide (NO_2), thus, $C_{12}H_{19}(NO_2)O_{10}$.

THE PRODUCTION OF FARINA FROM POTATOES

Is not a difficult matter. An outline of the process is this:

The potatoes are well washed, and then pulped in a rasping machine, which consists of a rotating horizontal cylinder furnished with interior serrated blades against which the potatoes are pressed. Unless the cells containing the starch are torn open no starch will be extracted in the subsequent processes. In the rasping machine there is a loss of starch to the extent of 20 to 25 per cent.; by grinding the rasped portion or giving it a second rasping, a portion of this starch may be recovered.

The pulp thus obtained is washed upon brass wire sieves, and the starch is carried off in suspension in the water, the larger fibres of the cells of the potatoes being left in the sieve. The liquid contains in suspension, besides starch, any free sand from the potato cells, and in solution, salts, albumen and non-nitrogenous extractive matter. It is run into collecting vats, well stirred, and run off, leaving the sand, thence it passes to settles in which it is allowed to remain for some hours; the first deposited layer is nearly all pure starch, while upper and later layers contain such fibrinous organic matter as has passed through the sieves during the washing of the pulp. The lower layer is white, whilst the upper is grayish in tint and can be scraped off and rewashed. Separation is better effected by centrifugal machines which best drive the water off and segregate the starch and fibre in the manner of an ordinary centrifugal separator.

The "green" starch, in the form of a slurry or paste, containing from 25 to 50 per cent. of water, according to the method of separation employed, is dried first at a low temperature to prevent its gelatinization and finally at 60° to 70° C. (140° to 158° F.), as put on the market in an air-dried state it contains 16 to 18 per cent. of water.

Most of the potato starch produced is not dried, but used in the "green" state for conversion into starch sugar (glucose) by hydrolyis; the residue left from the extraction of the starch still contains about 66 per cent. of its total dry weight of starch, together with small quantities of nitrogenous matter. The water from which the starch has been deposited in the washing process contains a trifling amount of mineral manurial constituents such as potash and phosphoric acid, and some nitrogenous matter.

FORMULAE FOR PASTES MADE WITH POTATO STARCH AS A BASE.

No. 1. If potato starch be rubbed up to a thick cream with a little cold water, and then boiling water poured on it, the mass thickens to a transparent jelly which is fairly adhesive, but by heating the mixture to boiling point and stirring it thickens up considerably. The compound thus prepared is not sufficiently adhesive to be used alone as an adhesive for cardboard bookbinding, etc., but when mixed with various substances, as stated below, the compound thus prepared answers many purposes as a useful agglutinant in various trades.

For example, the thick potato starch can be mixed with silicate of soda to the extent of 20 per cent., when a whitish, glairy mass is obtained that is very adhesive and useful for coating paper to be used on labels for tins, jars, etc., but owing to the silicate, which is a body that is easily decomposed by the feeblest acid, and which in itself does not possess any adhesive qualities to fit it for agglutinanting purposes, soda silicate is not to be recommended so much as any of the following substances.

No. 2. A somewhat similar looking adhesive is prepared as follows:

Rub up 1 oz.* of potato starch in 2 fluid ozs. of cold water, and then add 4 fl. drachms of commercial nitric acid to the mixture, and put the whole into a saucepan and heat it gradually (stirring all the time) until it thickens, then put in ⅓ of an oz. of powdered borax, and well stir the whole until it forms a solid jelly; then add 2 fl. oz. of hydrochloric acid, which will make the compound of a glairy nature, that is very adhesive, but in course of time it liquifies and becomes fluid like a mucilage by the addition of a little glue solution, in which ⅕ of its weight of glucose has been dissolved. The resulting compound becomes like gum arabic mucilage.

No. 4. Make a compound of potato starch and soda silicate as directed in No. 2, then separately soak glue in cold water for one hour just to soften it, and then dissolve it in a glue-pot with four times its weight of boiling water and add this solution to the mixture of farina and soda silicate, and stir the mixture and allow it to become cold, when it will set to a jelly, but on stirring it the compound becomes of a pasty consistence, which serves very well to coat paper for labeling tins and earthenware, glass, etc., when applied cold to the paper.

No. 5. Soak 1 lb. of good glue in cold water for three hours, and then dissolve it in a glue-pot with 2 fl. oz. of water. Separately rub up ¼ oz. potato starch with ¼ oz. cold water, then add 2 fl. oz. hot water, and after stirring heat the mixture until it is thickened; then mix 1 oz. of the glue solution with the whole of the starch mass, and after stirring allow to cool to form a jelly. This agglutinant is suited for labels for tins.

No. 6. Two drachms of potato starch mixed with 1 drachm of cold water diluted with 1 drachm of nitric acid; then pour 1 fl. oz. of boiling hot water on the mass, and a gum-like jelly results, which, when boiled, forms a limpid liquid. This answers very well as a mucilage for coating labels for tins, etc.

No. 7. Dissolve 2 drachms of glue (previously softened in cold water) in 1 oz. of boiling hot water.

Separately rub up ½ oz. potato starch in 5 drachms cold water to make a batter, then pour the hot glue solution into the starch paste and heat the mixture (not to the boil) until it thickens, then pour in 1 fl. drachm of hydrochloric acid, the resulting compound is a semi-transparent jelly that is a very useful agglutinant, but by adding more of the acid it is rendered of a glairy consistence.

No. 8. Soak glue in vinegar until it has absorbed twice its weight of that fluid—then melt it in a glue pot, separately rub up potato starch in cold water and pour about six times its weight in boiling water in the starch solution, and heat it until it thickens slightly, then stir in the glue solution, the resulting compound is one that is very adhesive for labeling paper, for use in cardboard box-making, bookbinding and similar purposes. Instead of soaking the glue in vinegar, it can be first soaked in water, and then the softened glue dissolved by heating half its weight in vinegar, and stirring the mass into a thick potato starch mass and heating the while and stirring. Such an adhesive, however, does not adhere to tin, but allows the labels to peel off, but for use as an agglutinant for bookbinding, etc., it is very useful as it can be used cold, so likewise in cardboard box-making.

The above compounds were obtained as the tangible results of an investigation carried out at the instructions of a firm of paste makers who want to improve their compound, the base of which is farina. Many other experiments were undertaken, but those above stated are the only ones that give tangible results of a commercial value. Many compounds of farina can be made that produce useful agglutinants, but for commercial purposes the question of cost has to be considered. For example, gum arabic mucilage, with or without the addition of sulphate of alumina to make it more adhesive, can be mixed with starch paste, so likewise dextrine corrosive sublimate, gelatine and glycerine, etc., but such compounds become too expensive, except for making office paste that can be sold in 1s. bottles of a moderate size. The proportions stated in the above formula are those taken in carrying out the original experiment, but when they were repeated with larger commercial quantities the resulting agglutinants were just as good.

The following formulae produce adhesive substances, having farina as a base, that are useful for a variety of trades.

No. 9. This formulae produces a paste that is used largely in the stationery and bookbinding trades. It is clean to use and firmly adhesive, being especially suited for paper in cardboard box-making: Ingredients, 1 lb. farina; 1½ pints cold water. Make into a smooth batter and then pour 1½ gallons of boiling water on the batter, stir well until the mass thickens, and if it does not resolve itself into a semi-transparent mass, boil it gently with constant stirring.

No. 9. Flexible paste for office use: Ingredients, 1 lb. farina; ½ lb. dextrine; 1 quart cold water. Digest the dextrine in the water until it forms a thick mucilage, then add the farina, separately dissolve ¼ lb. powdered borax in 2 gallons boiling water and add 2½ gills of glycerine, then stir the fluid boiling hot into the starch mixture and stir well until thickened. Owing to the presence of the dextrine the compound should not be boiled. It is suited for any material where an elastic paste is required.

No. 10. Borax, boracic acid and alum, sulphate of alumina, etc., have a very astringent effect on starch and flour pastes, etc., and by the inclusion of some one

of these in the paste a very adhesive quick drying compound is obtained.

The following is a good formula: Ingredients, 1 lb. rye, wheat or cornflour, 1 pint cold water. Make into a batter and then pour on it 3 pints of boiling hot water; when well thickened stir in 2 fl. oz. of water in which ½ oz. of common alum has been dissolved; stir until well incorporated. If a little starch paste is sprinkled with borax or acid and then stirred, the mass will thicken up to a solid jelly that is as elastic as india-rubber, and apparently non-adhesive; consequently in using these astringent substances, care must be taken to not use them in excess.

No. 11. Bichromated glue is a good material to mix with farina. The glue is soaked in a solution of bichromate of potash (5 parts bichromate to 100 parts water) for some hours, then the softened glue is melted and poured into the starch paste that has been made in the usual way, i. e., as a batter, and then thickened with boiling water; the mixture is boiled and stirred and allowed to cool, the resulting compound is a paste possessing a straw-yellow tinge, but one which is not affected by damp when it has dried on any surface.

No. 12. Another waterproof paste is obtained by the addition of rosin to the farina. A good formula is this: Ingredients, make into a batter 2 lbs. of farina or any other starch in 1 quart of boiling water, then pour on it ¾ gallon of boiling water and when thickened put the mass into a saucepan and while it is heating stir in 1 oz. of finely powdered rosin, and raise the heat sufficiently to dissolve the rosin in the mass, stirring well all the time until dissolved; this paste is useful for posters, wall papers, leather goods, such as leather tops of tables, etc. It must be thinned with cold water, otherwise the rosin will separate; use boiling water if required thinner.

Instead of rosin, venice turpentine can be used in a similar way.

As flour and farina pastes are apt to decompose by turning sour, it is best to prevent such decomposition by the addition of 1 to 2 per cent. of carbolic acid crystals to the paste, or else essential oil of cloves.—Oils, Colors and Drysalteries.

*The proportion can be taken pro rata for larger quantities.

Got His Pay Raised.

A year ago a manufacturer hired a boy. For months there was nothing noticeable about the boy except that he never took his eyes off the machine he was running. A few weeks ago the manufacturer looked up from his work to see the boy standing beside his desk.

"What do you want?" he asked.

"Want me pay raised."

"What are you getting?"

"T'ree dollars a week."

"Well, how much do you think you are worth?"

"Four dollars."

"You think so, do you?"

"Yessir, an' I've been t'inkin' so fer t'ree weeks, but I've been so blamed busy I haven't had time to speak to you about it."

The boy got the "raise."—Frank Leslie's.

PATENTS AND TRADE-MARKS.

The following list of recent Patents and Trade-Marks is reported by W. G. HENDERSON, Solicitor of American and Foreign Patents and Trade-Marks, Norris Bldg,, Washington, D. C. A copy of any of the following will be furnished by him for 15 cents.

PATENTS.

760,018. Making medicated soaps. Rudolf Reiss, Charlottenburg, and O. Schmatolla, Germany.

761,759. Means for distributing soap in liquod or paste form. James M. Campbell, Milwaukee, Wis.

TRADE-MARKS.

42,753. Shaving soap. Pancrazio M. Megaro, Newark, N. J. The representation of a star having six points colored in red with border lines in black, a wreath of green leaves and buds inclosed by two concentric circles, the outer circle intersecting with the inner points of the star and the inner circle inclosing a white background, on which is inscribed the words "Saponetto," and the picture of a cylindrical recpetacle in black.

42,620. Toilet soaps in liquid and solid form. George A. Schmidt, Chicago, Ill. The words "That Think."

PRINTS.

11,057. Title: "Howard's True Violet Soap." (For Soap.) Joshua Edward Howard, New York, N. Y.

LABELS.

11,123. Title: "Blu-nap."" (For Soap.) The Henry Roemer Company, Chester, Pa.

11,124. Title: "Hall's Benzine Soap. (For Soap.) R. L. Hall Soap Co., Detroit, Mich.

11,117. Title: "I-V Washing Tablets." (For Washing Tablets.) I-V Washing Tablet Co., Philadelphia, Pa.

11,118. Title: "The Sa. Louis Borax Soap Chips." (For Soap.) St. Louis Soap Co., St. Louis, Mo.

11,119. Title: "Washington White Laundry Soap." For Soap.) The Washington C. H. Soap Co., Washington Court-House, Ohio.

11,120. Title: "Ultramarine Sheet Bluing." (For Bluing.) Francis J. Godoy, New York, N.Y.

AROUND THE SOAP FACTORIES.

News-items sent us by our readers will find prompt attention in this column

There has been organized a company in Mexico City, under the name of the Sociedad Anonima Mexicana de Sosa Caustica, with a capital of $300,000, for the object of manufacturing caustic soda and silicate of soda. A license for the erection of a factory has been applied for; it will be the first of its kind in Mexico.

The Pugsley-Dingman Company of Toronto, Ont., has established a branch at Vancouver, B. C.

The Sugar Soap Company of Decatur, Ill., has been incorporated with a capital of $2,500. Object: to make soap, perfumes and other toilet articles.

Lightning, on June 21, struck the house of C. M. Hyde of the Babbitt Soap Company, on Madison avenue, New York. A number of valuable paintings and tapestries were destroyed and the house itself damaged considerably. Mr. Hyde and his family were at their summer home in Connecticut at the time.

The government, through its assistant counsel, H. J. Webster, is making a vigorous fight against the effort of Isaacs, Vought & Co., custom house brokers for A. Waldstein, to secure free entry as soap stock for a compound which the government declares is practically an alizarine assistant used in calico printing and intended after a little manipulation to be used for this purpose.

The compound is composed of about 75 per cent of castor oil, 20 per cent of olive oil, and the balance of oleic acid. It has been assessed under the provision for non-enumerated articles of which castor oil is the component of chief value, at 35 cents a gallon. The duty on alizarine assistant is 30 cents a gallon. It is claimed by the government that the stuff is much too costly for use in soap making.

A fire, supposed to have been caused by spontaneous combustion, occurred in Lazelle, Dalley & Co.,'s factory on June 3d. The damage is estimated at $50,000.

Extensive improvements to Dobbins' soap factory at Seventeenth and Federal Streets, Camden, N. J., are being made.

The building of the Hastings (Neb.) Soap Works has been completed.

A large new factory, according to plans filed with the building department, is to be erected on the foundation of the John T. Stanley soap works in New York City, destroyed by fire in April last.

At the St. Louis Exposition, Liberal Arts building, Block 75, the Bridgeport Wood Finishing Co. has as a part of its exhibit a crystal booth, made entirely of the quartz rock which they use in the production of their silex. The process used for pulverizing the silex is very expensive, but it produces a grade which cannot be excelled for fineness and evenness, and almost all the principal soap-makers throughout the country using silex are using this product, and state that they cannot find elsewhere a material which is as satisfactory.

The Wabash Soap & Chemical Co., of Wabash, Ind., with $1,500 capital, has been organized, with Frank M. Blount, Joel T. Rees and Charles F. Moore as directors.

The Mohawk Melting Co., of Colonie, N. Y., to deal in hides, tallow and general rendering, has been incorporated with $100,000 capital, by J. C. Caritey and Charles Caritey, of Secaucus, N. J.; Harmon Eggers and F. H. Eggers, of Cohoes, N. Y., and Louis Silver, of Union Hill, N. J.

The Butler-Kyser Oil Co. is a new incorporation at Huntsville, Ala., for the purpose of manufacturing cottonseed oil, soap and ginning cotton. J. E. Butler, of New Hope, is the president, and J. M. Kyser, former manager of the Alabama Cotton Oil Company's plant at Huntsville, is the manager. The capital stock of the firm is $50,000, and property has been bought on the N. C. & St. L. Ry. in Huntsville, for the erection of the works.

The Mineral Oil Soap Co. has been incorporated, with a capital stock of $100,000, to operate a soap factory at Memphis, Tenn. It is said that the company intends to make soap from mineral oil under a process discovered by E. W. Barrett, of Covington, Tenn. Work on a factory building in South Memphis has already commenced, and machinery is said to be on the way. Dr. G. E. Petty is the president, and a trial on a small scale is reported to have resulted in a fair business.

Memphis papers claim that that city is the largest in the country which has had no soap factory in late years. (There was a soap factory in Memphis until lately, but the owner retired from business.)

A cottonseed oil mill is being erected at Atlanta, Ga., to be operated by the Buckeye Cotton Oil Co., but said to be practically a part of the Procter & Gamble firm. According to rumor, soap is to be made at these works eventually.

The White Horse Oil Co., of Muncie, Ind., has organized with $50,000 capital. Walter J. Hardy, M. E. Williams, J. T. Sherman and C. C. Ball are the directors.

Hartford, Conn.—Judge Wheeler yesterday heard further the motion of Maria Eriekson and her son, Louis B. Eriekson, to have the temporary injunction in foree against them in a suit brought by Samuel J. Camp, dissolved. The Erieksons were restrained from using certain trade-marks on wrappers for soaps formerly used by the Eriekson Soap Company, the property of which had been aequired by Mr. Camp. Judge Wheeler denied the motion and the injunetion eontinues in foree.

The Frontier Soap Co. is a new firm at St. Albans, Vt.

Ineorporated: The National Soap Corporation, at Boston, Mass. Capital $100,000. President, George W. D'Arey, Dorehester; treasurer, Edward A. Lally, Dorehester.

W. D. Vandenhove, tallow broker of New York City, has eoneluded to retire from active business; his partner will eontinue the business.

Among the new incorporations is the New York Petroleum Soap Co., at Jersey City, N. J., to manufacture soap. Capital, $150,000. Ineorporators, Lewis Henry, James Tresouthie, M. Wood, all of Jersey City. The registered office is at 146 Twelfth Street, Jersey City.

Utiea, N. Y., June 4.—During the absence from the eity of the owner, the old soap faetory of the J. Tavender & Sons' Company, in Lee Street, just off of North Genesee Street, was ransaeked by some unknown parties and eonsiderable damage was done. Walter Tavender is now the owner of the property, and for some months past he has been in Boston. He returned to the city Saturday last, and when he went to the faetory discovered that some one had been there during his absence.

Most of the damage eonsisted in the earrying away of parts of maehinery and pipe, whieh could be sold as old iron. The greatest damage was to the elevator. This, aeeording to Mr. Tavender, eost about $1,000 to install About all that remains of it now is the platform or body part. The iron parts, such as the shafting and wheels, were taken away. Another thing that had been removed was an engine which had been left on the ground floor. The plaee was pretty thoroughly ransacked. A large tank on the ground floor remains, but Mr. Travender gives as the probable reason why this also was not taken is that the gas eompany had a large quantity of oil stored in it during the winter. The damage, however, is not so mueh the value of the goods taken, though this is eonsiderable, as it is the value they would be if the maehinery was wanted again. It will eost eonsiderable money to replaee them. The work is supposed to have been done by some tramps in order that they might serape up a little money during the winter. The matter has been reported to the police and a elue has been obtained, so that it is thought the offenders will be in custody within a few days.

When asked to-day whether or not the factory would be operated again, Mr. Tavender stated that he was not eertain, but was of the opinion that it would. He stated that he had heard that parties were anxious to engage in the soap business here, and that he might dispose of the property to them.

The Laboratory Companion to

Fats and Oil Industries.

By Dr. J. LEWKOWITSCH, M. A., F. I. C.

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The attention of our readers is called to the column of

"WANTED" AND "FOR SALE"

advertisements on another page. Manufacturing firms looking for intelligent up-to-date help, or who have second-hand machinery they wish to dispose of, and practical men experienced in any branch of manufacturing chemistry looking for employment, can mutually profit by using this column.

Additions to Our Brand List.

113 Puck Manufacturing Co., Des Moines, Iowa.
346 Beaumont Soap Co, Mayfield, Ky.
347 Lockwood Soap Co., Kansas City, Mo.
348 Oklahoma Soap & Oil Co., Oklahoma City.
349 M. F. Windsor Soap Co, East Buffalo, N. Y.
350 Florida Cotton Oil Co., Jacksonville, Fla.
351 Brown Soap Co., Dayton, Ohio.
353 Southern Soap Co., Birmingham, Ala.
354 Zion City Soap Factory, Zion City, Ill.
355 Palami Co., Boston, Mass.

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Soapex; W. R. Hollingshead Co., New York City.
Spotless 350
Steamboat 350
Summer Blossoms 337
Sunburst 106
Talcum 337
Tar Egg 347
Tarlex 348
Tarline 349
That Think 4
The Two Tars 286
Top Notch 106
Transparent Brilliant 337
Transparent Rose 337
Type Soap—Type Soap Co., Pierre, S. D. and Chicago.
Veribest 286
Vernon 72
Violet Blossoms 337
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Wheel 32
White Linen 113
White Purity 349
White Zephyr 349
Yellowstone 106
Zion City White Dove 354

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SUPPLEMENTARY LIST

OF THE

BRANDS OF SOAP MANUFACTURED IN THE UNITED STATES

Including also the Brands of Foreign Manufacture Registered as Trade-Marks in this Country.

NOTE: This list is compiled with the greatest possible care, but the publisher does not assume any responsibility other than to correct and to complete the list according to data obtained from official sources or furnished by the trade. Brands registered in the patent office as trade-marks or labels are given with the name of the party registering same. Brands or names marked * are those which were found to be used by more than one firm or the owner of which could not be ascertained. ☞ SEE THAT ALL YOUR BRANDS ARE ENTERED IN YOUR NAME.

3—Liberty Mfg. Co., Chicago.
344 Home Soap Co., N.Y.
345 Columbia Ref'g. & M'f'g Co. Ltd , New Orleans.

Abrado, Floridine Mfg. Co., New York.
A Happy Home 4
Alabama Tar 3
All-nced it 286
Amazon Coco 337
Amber Rose 346
Anchor Castile 3
Angelus 54
Antelope 3
Antillia 2
Anty Up 340
Apple Blossom 337
Atoka 346

Baby Mine 8
Bannock 3
Beauty Belle 151
Beaumont's Shavin
Beef Oil 340
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Bell's Naphtha 343
Ben Hur 3
Bicycle 3
Big Glycerine 3
Billy-Goat 340
Blossom Bouquet 3
Blue Chip 340
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Blue Monday 340
Blue Olive 340
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Botica Francisca 3
Bouquet Chic 3
Bouquet Reverie 3
Brazilian Bath 3
Bunny—Hewitt Bros. Soap Co. Dayton, Ohio.

Calcutta Castile 337
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Camille 3
Ceske Slovonsky 3
Ceske Polski 3
Chlorine 340
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Climax Chip 54
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Conto & Elroy Castile 3
Credential Shaving Stick 16
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Crystal Sulphur 3
Crystal Palace 3
Crystal Transparent Tar 3
" " Carbolic 3
Cuban Rose 3
Cuta Alba 3
Cultoderma Medicated 3
Cycle 3

Dactylis 11
Dermicura 327
Diadem 3
Druggist's Transparent 3
Dr. Allens Medicated 3
Durango Best, Durango (Colo.) Soap Co.

Elk's Bouquet 346
Empress Eugenie 115
Empire Geranium 337
Encryl Encryl Ltd., Hull, England.
Eureka 3
Evergreen 286
Expert 286

Facine 340
Fairbank's Primrose 2
" Scouring 2
" German Fam. 2
" Glycerine-Tar 2
" Mottled Germ'n
" Olive 2
" Navy Blue 2
Federal Family 1
Floral Feast 115
Flannel 2
Flip 345
Force, Cincinnati Soap Co., Cincinnati, Ohio.
Fragrant Honey 2
French Violette 3
Frog 340

Gem Wash, Componnd, Clara Pearce, Philadelphia.
Georgia Oleine 29
Geronne Violette 3
Geyser 343
Giant 3
Gloriola 29
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Glycerderma 3
Golden Rose 3
Gold Seal Soap Flour 340
Goodhair, Goodhair Remedy Co., Newark, Ohio.
Green Olive Chip 340
Green Palm 340
Green Seal Chip 340
Gusher 340

Hard Maple 155
Heliotrope Blanc 3
Heliotrope Ideal 334
Helix 54
Hi Lo 96
Home Castile 3
Horse Oil Harness 340
Hots Springs Bath 3
Hy-Lo 96

Ideal Bouquet 3
Ideal Family 3
Idyllwild 54
I-Lika-U 286
Ilo-Ilo 340
Imperial Crown 3
Iroquois Maiden 115

Jack & Jill 340
Jack Pot 340
Japanese Bath 3
Jerone Bouquet 3
Jewel 2
Jus de Framboise 3

Kaska Bouquet 346
Kazan 343
Kimola, Bell Mg. Co., St. Louis, Mo.
King Solomon's Rock Oil S. Mnross Jenkins, N. Y.

Lakeside (Scouring) 2
La Mariposa 5
Lamsuet 3
Lasco Napthol 54
Last Long 286.
La Virtho, John S. Nichols, New York.
Le Fameux 16
Le Fameux Rose de Seville 16
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Le Fameux Peau d'Espagne 16
Le Fameux Jockey Club 16
Lemola Toilet, Lemola Soap Co., Los Angeles, Cal.
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Limberine, E. A. Warren, St. Paul, Minn.
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Llama 3
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Madeira 16
Madeira Almond Cream 16
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kina Skin 346
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Mexicano 54
Michigan Family 2
Mildred 337
Millens Cream 3
Millens Toilet 3
Millens Antiseptic 3
Millens Tar 3
Miners Tar 3
Milk Bath 3
Monroe 3
Moss Rose Borax 3
Mox-Nix 340

Naphtha Toilet 340
Naphthal 340
Napthol 340
Naptholive 340
Naptha Washing Powder—Hunt Mfg. Co., Cincinnati, Ohio.
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Noxwork 340
No. 81 White Rose Glycerine 3
No. 3725 White Rose Glycerine 3
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Old Linen 3
Old Time Tar 3
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" Lily 298
Peace 340
Peach Blue 340
Peerless Country Club 337
Peerless Forest Violet 337
Peerless Lily of the Valley 337
Peerless New Mown Hay 337
Peu Yen 340
Perfecto 121
Plantol Lever Bros., Limited Port Sunlight, England.
Poncine Erasive 3
Pony Up 340
Popular Blossom 3
Premium, Davenport (Iowa) Soap Co.
Premium W. Powder, Davenport (Iowa) Soap Co.
Preventionette, Willard Chemical Co., Malden, Mass.
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Queen Complexion 3
Quick and Easy 56

Radiant Violet 3
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Rex Liquid Soap 340
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Rose d'Or 3
Rose Glycerine 3
Rose Immortelle
Royal Lily 16
Rubbo, Lever Bros., Limited, England.

Safegnard Carbolc 53
Samson's Transparent Tar 3
Sandalwood 3
Sani-Tari Skin, Citizens Wholesale Supply Co., Columbus, O.
Santa Rex Castile 2
Sauer's Complexion 3
Savon White Rose 3
" Jockey club 3
" Violete de Parme 3
" Hyacinth 3
Savon Carnation 337
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Savon Lilac 337
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Savon Quo Vadis 337
Savon Rose Marechal Niel 337
Savoy Alpine Violet 337
Savoy Carnation 337
Savoy Jockey Club 337
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Sayf Syde, Sayf-Syde Soap Co., Cincinnati.
Sentinel 340
Sentry 340
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Solos Laundry, Nelson Mfg. Co., Iowa City, Iowa.
Sorosis 340
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Stainilgo, Kendall-Davis Co., Boston, Mass.
Star Mottled 2
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Tew-Fer 96
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Tonla Toula 334
Town Market 3
Trash Mover 286
Twin 2
Twin Rose 3
Two Jacks 340

Uncle Sam's Floating 120
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Vineta 3
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Whale 3
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White Pine Castile 344
White Rose Glycerine 3
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White Saxony 3
White Wonder 346
Windsor 2
Winner 29
Witch Hazel Bath 3
Witch Hazel Bouquet 3
Witch Hazel Shaving 3
World's Fair 2
World's Work 53

Yellow Dog 340
Yellow Palm 340
Yellow Rose 3

Zingarella 3
Zo-Zo White Tar 3
Zanette 3

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Position Wanted: Capable, young soapmaker, German, experienced in the manufacture of household soap, specially toilet soaps, perfumes and toilet articles of every kind, desires situation. Best references and testimonials. Address: K. H., care of American Soap Journal, Milwaukee, Wis.

Position Wanted: By first class oil and soap chemist, expert in refining cottonseed oils and manufacture of all kinds of soaps. Would like to correspond with parties who are looking for such a man. Am ready to make change July 1st; have been in the business over 30 years, am in good health and strictly sober, would take interest in suitable concern. A good healthy location preferred. Very best of references. Address: W. F. N. care of American Soap Journal.

Position Wanted: By an up-to-date soap maker, 25 years' experience in making of all kinds of laundry and toilet soaps; including all kinds of textile soaps, chips and soap powder, recovery of glycerine from waste soap lye with the best obtainable results. Best of references. Address: "SOAP," care of American Soap Journal, Milwaukee, Wis.

Position Wanted: By a thoroughly reliable, up-to-date soapmaker, competent in Laundry, Toilet and Textiles. Samples of any soap if desired. Will guarantee satisfaction or no pay. First-class references gladly furnished. Formulae and directions for any soap furnished by mail. Correspondence held strictly private. Address: Horace Marble, care of American Soap Journal, Milwaukee, Wis.

Situation Wanted: A Soapmaker, who is also a good soap and oil chemist, would like a permanent position with some progressive firm. Can make any kind of toilet or laundry soap and is thoroughly up-to-date in methods of manufacture. Can make exceptionally fine soaps from cotton seed foots, and is well trained in glycerin recovery. Cheap firms need not answer. Address: J. J. E. B., care of American Soap Journal, Milwaukee, Wis.

Position Wanted: By an experienced soap maker, 20 years experience in tallow and C. S. F. soaps. Light colored foots soap my specialty. Address: L. M. care of American Soap Journal, Milwaukee, Wis.

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Wanted: A man to take charge of and operate soap factory, must be thoroughly posted on best methods of economical production of white and laundry soaps and placing same on the market. State experience, positions held, age, reference and salary required. Address: K. L. care of American Soap Journal, Milwaukee, Wis.

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DR. HENRY GATHMANN, Publisher.
2707 North Ave, Milwaukee.

MILWAUKEE, WIS., August 1, 1904.

VOL. XIV. No. 12.

THE AMERICAN SOAP JOURNAL AND MANUFACTURING CHEMIST.

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OFFICE OF PUBLICATION:

2707 NORTH AVENUE, MILWAUKEE, WIS., U. S. A.

The AMERICAN SOAP JOURNAL AND MANUFACTURING CHEMIST is devoted to the interests of all manufacturing industries of a chemical character, and is an absolutely independent publication. It is the only newspaper of its kind in America and has also a large foreign circulation.

For Subscription and Advertising rates see above.

Communications on industrial subjects, news items, and any information suitable for printing in these columns, are solicited and will have due attention.

Readers in search of machinery, supplies etc., not advertised in these columns, are invited to write us and we shall endeavor to supply the information.

Address all communications to

DR. HENRY GATHMANN, Publisher,
2707 NORTH AVENUE,
MILWAUKEE, WIS., U. S. A.

A firm to whom we recently had occasion to suggest the advisability of advertising its goods in THE AMERICAN SOAP JOURNAL writes us in return:

"We are placing contracts with soap-makers for our goods — — — and if you are in a position to get us some contracts with different soap-makers, we will give you 5 per cent. commission, as fast as the bill is paid for, and will protect you from publicity in the matter if you wish it done. At any rate your commission will always be private and protected. You are in position to turn business to us through your paper and through your other channels, and you can make a fine income by placing half a dozen contracts, etc., etc." The letter explains also how we can make $180 per month in this way, with very little trouble.

Really meritorious articles, in order to find buyers, need only be brought frankly to the attention of the trade, and this our advertising columns can do in an unequalled manner and at an outlay of $5 to $10 a month at most; hence our correspondent's offer of $180 per month is plainly ill-advised and probably was not well considered before it was made. In this hope we refrain for the present from publishing the letter and signature in full.

If there are any friends of the SOAP JOURNAL who would like to buy their supplies from a source paying a commission "protected from publicity," to us or to any other intermediary, we should like to hear from them.

In the meantime our advertising columns are open, at reasonable rates, to all reputable sellers of anything used by the soap trade. If any of these believe that an open, frank advertisement of their goods in this paper would not return them the few dollars so invested, they may have their own reasons for thinking so, and may continue thinking so till the end of doom. If any are afraid to invest even a few dollars in a legitimate trial of such an advertisement, we bear them no ill will—it is their right to do as they please. But if anyone—refusing a small fee for a legitimate service offered by us—coolly proposes instead to secretly bribe us into lending assistance in underhand methods, that one is apt to make an enemy of the SOAP JOURNAL.

All this is said with no wish to show off; the offer has simply ruffled our temper and we use this means of blowing off a little surplus steam that has accumulated in consequence.

We feel better now.

A little New York trade paper, noted for its disproportionately large bump of self-assertiveness, and far better known by its large claims and bluster than by any actual accomplishments, succeeded in performing last month a very characteristic feat. It used up *three quarter pages* of its space in criticising other papers severely for ignoring the fair at St. Louis, and then sacrificed on its own account less than thirty lines to a description of that same fair!

Not satisfied with this *quantitative* display of its peculiar methods, it also demonstrates *qualitatively* its superior facilities for bluster. For although the paper mentioned modestly asserts, in two or three places of each issue, that it is just "the whole thing" in soap literature, it had not one word to say of the soap exhibits at the fair, but devoted its almost thirty lines exclusively to a description of a building in no way of interest to the soap or any allied trade!

However, tastes differ, and anyone who likes that sort of thing will find in our contemporary just what he likes.

As to the criticism: If we had little to say about the St. Louis Fair so far, it was because we had not seen the fair and hence were not aware of anything worth saying to the soap trade in regard to it. As it now appears from two reports, kindly sent us by friends of the SOAP JOURNAL who did visit the fair, we have not been so culpably negligent after all. What there was to report, has kept quite well till this month!

Our thanks are due to both our correspondents who so kindly took the trouble of writing out what they say in St. Louis of interest to our subscribers.

Speaking of fairs, the writer of these lines, over ten *years* ago, invested in the stock of the Chicago World's Fair; three *months* ago he received his final "dividend"; that is to say, he lost nearly his whole investment, receiving back at length a pittance in 2 or 3 installments, the last of which was in the hands of the fair over ten years!

Besides, the Chicago Fair at the time provided the SOAP JOURNAL gratis with pictures illustrating the fair *in general,* and generously allowed and even urged us to puff the fair to our heart's content. *But when we wanted pictures of* TRADE *interest, we were referred to the "authorized photographer," who demanded highest prices!* And no one was allowed to take pictures except this "authorized" photographer! So long as fairs tax newspapers, by way of "authorized" rake-offs, for what the papers really wish to publish, these papers will not be over-anxious to sacrifice much valuable space for the good of the fairs alone.

The question arose in our correspondence the other day: Who is the owner of a brand of soap, when said soap is put on the market as a "private brand?" In other words, if a wholesaler has his soap made under his own name by a soap manufacturer whose name does not appear openly?

It seems ordinarily to be taken for granted that such a brand belongs not to the actual manufacturer, but to the ostensible manufacturer. But is that question settled?

The very purpose of a trade-mark is to show the origin of the goods marked by it. When a dealer is falsely designated on the wrapper as the manufacturer, is not that violating the first principle of the trade-mark? Is it not just such a deception as the courts have ever held they were not intended to uphold? It would seem so, although possibly—who knows what a court may do—it might be held that a purchaser is not injured when he buys as being made by, say, a dry goods merchant, a soap that really was made by a practical soap manufacturer. So far, we admit, we feel rather uncertain.

But now comes an additional point: Granting for the moment that the dealer who first thinks of a certain brand and has it made for himself by some manufacturer, may be the real owner of that brand, not only in common fairness, but also in law. What then will be the ownership of the brand, if the dealer at any time choses to have his soap made by another manufacturer? Surely, if the trade-mark is of any use at all, it is that of showing the *identity* of one cake of soap with all other cakes bearing the same trade-mark. But goods made for the same dealer by different manufacturers are *not* identical —no more than if they had been made for different dealers by the same different manufacturers.

This is no idle theorizing, for we recall the circumstance that some years ago a certain brand of paint was declared by the courts as invalid, simply because the manufacturer (who in that case put up the paint in his own name altogether) had procured his raw material in part from a different mine than the one where he obtained it when the brand was new. If the undisputed owner of a legitimate trade-mark loses it by merely changing the source of some of his materials, can a dealer owning a brand of soap retain such ownership when he changes the manufacture of the entire soap?

This question may have been decided before, but if so, we do not recall the fact.

The St. Louis Fair.

We have received from a subscriber of THE AMERICAN SOAP JOURNAL, who has recently spent a couple of days at the St. Louis Fair, a brief report on the soap exhibits there, which we take pleasure in publishing herewith for the benefit of our readers.

Our correspondent writes that if the amount of soap on exhibition at this fair is an index of this nation's civilization, then the Americans have barely emerged from the savage state. He made a thorough canvas of the main buildings, with the result that he found just two American soap exhibits, viz., Fairbank's, who exhibit a few commercial packages of "Gold Dust" Washing Powder and "Fairy" Soap, several plaster groups of the Gold Dust twins, and a sort of fountain from which oozes a slow stream of soap suds; and Babbitt's, who have a cottage, on the sides and roof of which are tacked 33,000 packages of "Best" Soap and 1776 Washing Powder. The one-room interior of this cottage is tastefully furnished with a graphophone and a show case containing specimens of the plated ware premiums obtainable for Babbitt's soap wrappers. Adjoining Babbitt's exhibit is that of Pyle's Pearline, consisting of a gallon jar of Pearline, a gallon jar of soft soap made from Pyle's Pearline and a lot of remnants of yarns, ribbons and pieces of calico said to have been washed with Pearline without injury to the colors.

This constitutes the exhibits of American soaps. Not a piece of toilet soap, no soap machinery, no essential oils or anything else that could interest a soapmaker.

The blame for this paucity of representation of an industry of such vast importance must be accepted by soap manufacturers of this country in general, but in particular by the St. Louis representatives of this industry, who have preferred to shine by their absence, thereby acknowledging an indifference and lack of loyalty to their city's affairs that will be hard to excuse. If the soap manufacturers of St. Louis had done one-tenth as well as, for instance, the Simmons Hardware Co., or the Mallinckrodt Chemical Co., we might have forgiven them; but as it is, the suspicion that their highest aims are the accumulation of many dollars and cents, to the exclusion of all nobler motives, is warranted by the facts.

Outside of the above-mentioned American soap exhibits, our correspondent found in the English section of the Liberal Arts Building, a magnificent exhibit by the Price Candle Co., of candles, waxes, glycerine, soaps and statuettes carved from stearic acid; also a fine exhibit by J. C. & J. Field, and another by the United Alkali Co.

In the French section of the same building is a fine individual exhibit by E. Pinaud, and a collective exhibit of soaps and perfumery by Simon, Michaud, Plassard and Roussille Frères & Cie. There is nothing remarkable about any of the soaps or the packages in this exhibit, and a handsome silk wrapper for Savon Heliotrope, which our correspondent wished to see, was said to contain a wooden block and not a cake of soap.

The German section of the Liberal Arts Building contains by far the handsomest collective exhibit of soaps and perfumery on the grounds. It consists of six beautiful cabinets arranged in oval form. These cabinets contain specimens of the following six firms: L. Leichner, Berlin; F. Wolff & Sohn, Karlsruhe; B. Langwisch, Hamburg; Geo. Dralle, Hamburg; Vereinigte Chemische Werke, Charlottenburg; Juenger & Gebhardt, Berlin. The handsomest wrappers and packages are those of Geo. Dralle and Wolff & Sohn; as to the contents of these handsome wrappers, boxes and flacons, no opinion can be given, because they are inaccessible.

In addition to the above, the Mexican, Cuban and Portuguese sections contain a few soaps mixed in with other products of the chemical industry, but all in all, more soaps can be seen in any department or drug store than at all the fair; besides there one can see the real soap; at the fair only the wrappers may be seen at a distance.

On the whole, our correspondent received the impression that, whilst the St. Louis Fair is certainly a big thing and worth everyone's while to see, it shows no advancement in art or industry over the Chicago Fair, and there are some features absolutely objectionable; for instance, the innumerable stands where cheap jewelry and other trinkets are offered for sale, the Boer war enclosure with sign saying: "At show to-night 30 horses will fall under fire," etc., etc. Happily, the bull fights have been abolished, yet there is plenty on every hand at the St. Louis Fair indicating that the refinement of the masses has made no great progress and that the administration is not altogether opposed to indulge their wicked inclinations.

Soap-Makers at the St. Louis Fair.

BY GEO. A. SCHMIDT, CHICAGO.

A well-known professor of an Eastern university said recently: "The person is to be pitied who has no hobby horse and does not ride it occasionally, etc., etc." My hobby is to put my thoughts on paper and send them to THE AMERICAN SOAP JOURNAL, reminding readers now and then that the chat of a practical man must not be criticised as if it were an essay by a professional writer who expects payment for his work.

Everyone who can possibly spend the time and the money should visit the fair at St. Louis. Great lessons may be learned there, especially by soap manufacturers, but the latter must learn by comparison, as the machinery and tools, as well as the products of one of the most important industries exhibited, hardly deserve mention.

One of our large soap concerns shows a large soap-bubble fountain; quite a striking exhibit, but what does it say? Or what is the object of a building, erected by another well-known soap firm, which is composed of

packages which may contain soap or soap powder, which can be seen in many stores to better advantage. Even foreign soap-makers show more actual soap than do our own, but these, too, have nothing new to exhibit; nothing to say, nothing new to explain.

The writer cannot help expressing surprise at the attitude of American soap manufacturers for letting so exceptional an opportunity pass without showing to the world what progress has been made in making "Means for the removal from all kinds of surfaces of many kinds of objectionable matter." Is it possible that no progress has been made? Is the soap-makers' art the only occupation which has nothing to communicate, nothing to show, to demonstrate to the public?

I have put that question to men in the business and have been answered "Why don't you exhibit your novelties?" Simply because I am doing my share in that direction in other ways, and because dear experience has taught me the risks a man of moderate means runs in bringing novelties before the public. Imitators have always been much more plentiful than originators, and it is easy to make minor alterations, calling them improvements, and even obtain a patent on an article where the "adapted" original idea of others represents ninety-nine parts of the value of the whole, the original idea.

Experiences of that kind induced us to offer to several large concerns to share with them the expense, work and profits of a demonstrative exhibit, but none were willing to accept.

Many other branches of trade, as well as the United States Government, realize the educational, and, in consequence, the commercial value of demonstrations of the progress made lately. While the latter demonstrates and lectures on Radium, etc., etc., bakers show new ways of baking, manufacturers of dough-mixers demonstrate their machines, the National Cash Register Co. lectures on the advantages of their various systems, and so many other industries show they are not asleep, and they find it profitable to do so.

Not only business firms but great nations speak to the world in their exhibits at St. Louis. Especially Germany's exhibits teach great lessons; the spirit of the energetic ruler of that country seems to say: "In 1876 in Philadelphia it was said of German goods 'Poor and cheap.' What do you say now?" And the investigator must say: "Expensive, perhaps, but the best that can be produced."

Then there is Japan—compare it with Russia. While the former nearly equals Germany in the scope of its exhibits, Russia shows nothing but the white cloth enclosure which hides the cases of goods still unpacked. What is the cause of this difference? The same, in my opinion, which keeps the soap manufacturers of the world behind the times; the substance, the money, etc., is there, but the proper spirit is missing. On that account the Japanese win, the Russians lose. Will soap-makers profit by the lesson?

Because I have been asked "What could you say or demonstrate not already known; what kind of a 'spirit' could be put into the soap industry?" I will in reply add a few words to former explanations (printed in THE AMERICAN SOAP JOURNAL) which show a new (or old, but not properly understood) side of the very interesting and complicated subject, viz., the manufacture of articles by means of which we can remove from the surface of ourselves and surroundings those ever-present accumulations which destroy, if they are not removed. Suppose that most striking of soap exhibits at the World's Fair, the soap-bubble fountain, were inhabited by "the proper spirit" which would explain the following:

"Ladies and Gentlemen: In order to understand the important work performed by well-made soap, I will explain what it does for the human skin (as soaps used for toilet purposes perform the most delicate and complicated duties, you can easily understand how it acts on other surfaces is you comprehend its action on the skin).

"You should read in some up-to-date encyclopaedia the article on 'Osmosis,' so you can get an idea why the membrane (which separates two solutions of different substances which pass in opposite directions *through* the dividing membrane, and so different bodies are separated which cannot be taken apart as easily and conveniently by any other means) must be kept in proper condition so it may do its work well.

"Your own existence is a kind of Osmosis, a sort of double filtration, beginning in the mouth where saliva comes through openings of the skin from the inside and the taste proves that portions of the food, however minute, pass through to the nerves; otherwise we would not taste. These currents in opposite directions occur also in the stomach and intestines, where gastric juices are secreted and nourishing solutions absorbed, and in the lungs where oxygen is absorbed and carbonic acid exhaled.

"Many more examples might be given to show that the dividing line, the separating membrane, is all important in life. Remembering this, we will realize the necessity of keeping this 'filtering medium,' the internal and external skin, in proper condition and good working order, by removing from it everything which might make it impervious.

"The soap-maker has nothing to do with internal membranes, but experience has proven the fact that one organ sympathetically influences the other, and we know that a clean, pure mouth aids digestion very materially; how much more then must a clean, healthy skin benefit the entire system?

"This bubble fountain illustrates, on a scale many

thousand times enlarged, one of the ways in which well-made and properly used soaps act in removing from the human skin the undesirable. The latter, the 'dividing membrane,' if viewed under the microscope, reveals the fact that it is by no means the simple sheet many persons imagine it to be, but a somplicated filtering medium full of minute passage-ways, pores, cavities, recesses, etc., etc. In order to loosen, detach, surround, lift up and out of the depths the undesirable, we introduce soap solutions. These get under the dirt; massaging, mechanical work, washing, introduces air into the solution just as we do it here by slowly blowing air into the soap solution. Observe the result; the bubbles are lifting up and out continually, thus demonstrating one of the principles of purifying."

It is the firm belief of the writer that our industry would be greatly benefited were there an organization of soap manufacturers who would take it upon themselves to "put the proper spirit" into our profession by showing the public the absurdity of bringing daily into close contact with their bodies a substance of which they know nothing and with which they ought to become familiar.

"Good things are like good people; they increase in value the more you know about them." That is wherein they differ from trash, of which the opposite is true.

From Our Correspondents.

MANY THANKS.

St. Petersburg, June 25, 1904.

Dr. Henry Gathmann.

DEAR SIT: We were pleased to read the notice in THE AMERICAN SOAP JOURNAL of June 1st, with regard to our firm, and have much pleasure in sending you to-day, per registered sample post, one of the 360,000 cakes of soap, intended for the soldiers in the far East, to add to your "collection of specialties in the soap line."

We are, dear sir, yours very faithfully,

DR. A. A. SHUKOFF.

[The sample arrived just as we go to press, being delayed in transit. Comments to follow.—A. S. J.]

DIES WANTED.

London, Ont., July 20, 1904.

DEAR SIR: We would like to purchase some second-hand soap dies and would be glad if you could furnish us with the names of parties having such for sale.

Yours truly,

THE CROWN CHEMICAL CO., LTD.

LOST PAPERS.

Melbourne, Australia, June 25, 1904.

Manager American Soap Journal.

SIR: I have the honor to acknowledge the receipt of Nos. 1 and 3 of Vol. 13 of THE AMERICAN SOAP JOURNAL, and to convey to you the thanks of the trustees for your courtesy in forwarding the same to the library free of charge. It is regretted that you were unable to supply the Nos. 2 and 4, as it is very desirable for the library to have the volume complete.

I have the honor to be, sir,

Your obedient servant,

CHAS. ARMSTRONG,
Chief Librarian, Public Library of Victoria.

[The Public Library of Victoria is one of our esteemed subscribers, and lacks Nos. 2 and 4 of our Vol. XIII. for purposes of binding. We should like to forward a copy of each if we could get them. Who has them to spare? Editor A. S. J.]

WHO WILL ANSWER THIS?

MR. EDITOR: Will some of your many readers please give answer through your columns why, in making settled soap, it is the custom to saponify the tallow first and the rosin next. Also the advantages of so doing, if any? Yours truly,

INQUIRER.

ANOTHER QUESTION.

Editor American Soap Journal.

SIR: I have read from time to time in the JOURNAL formulae and directions for about all kinds of soap, but don't remember to have seen the same for shaving soap. Am I correct? SUBSCRIBER.

The Essential Oil Plants of North Borneo.

We reprint the following from the Oils & Colourman's Journal:

SIRS: A copy of your journal has come into my hands, from which I notice you supply technical books on oils, etc. I would be much obliged by your forwarding me your catalogue.

What I especially require is a technical work on the distillation and (or) extraction of essential oils. I was for many years in the Philippines, until the revolution and subsequent political troubles made it impossible for a European to live in the interior of these beautiful islands. I had a large estate, and was interested in the distillation of the Ylang-Ylang in the old crude way. I have since bought this island of Daat—a dependency of the colony of Labuan, the principal part of which I have planted with cocoanuts, from

which I am making copra, which will probably later on be made into oil on the spot; but I have also laid out a large plot with Ylang-Ylang trees procured from the Philippines, which are thriving splendidly, and will be ready for exploiting in two years hence. I have also several other tropical plants with sweet smelling flowers in course of propagation. There is also an orchid growing profusely on this island with exquisitely scented flowers, which give a negative result in trials made in a small experimental still. With the object of extracting the essential oil from these more delicate flowers, I require a work to enlighten me which at the same time contains the newest mode of distilling. If you know of such a work or works I shall be much obliged by your letting me know.

Thanking you in anticipation,

Yours faithfully,

HOWARD W. BRAY.

Pulo Daat, Labuan, North Borneo, May 20, 1904.

Mr. Yerkes' First Deal in Soap.

Charles T. Yerkes, who is now busy supplying London with an adequate rapid-transit system, began his business career with a successful speculation which did not involve the outlay of a dollar. It was a Saturday afternoon, and he was strolling along a wharf in Philadelphia, when he came to a store where an auction sale was in progress.

"How much am I offered for this box of soap?" asked the auctioneer.

The thirteen-year-old boy looked at the brand, and saw that it was the same soap as that used in his home. He knew what his mother paid for it at retail, and so he made a bid. The auctioneer smiled at him, cried the bid once, and said: "Sold to—what's your name, bub?"

"Charles Yerkes."

"Sold to Charley Yerkes for——."

Then another box was put up, and bid in by the boy, and this was continued until fifty boxes had been struck off to him. He had a deposit of five dollars in a savings bank which had been there some months. He showed the auctioneer his certificate of deposit and said he would soon return and pay for the soap.

He went to the grocer with whom his family traded, and asked him whether he wanted to buy some soap. The grocer asked him how much he had, and what it was worth. The lad replied that he had fifty boxes, and that he would sell the lot for a certain sum, naming an amount double that which the soap had cost him at the auction house. The deal was closed, and then the storekeeper asked the lad how he had come by it. When young Yerkes told him, the man opened his eyes, and said: "I had intended to go to that auction, but had forgot it."

The boy did not draw his five dollars from the bank, and thereafter it was his great pride to add to it. "It is surprising," said he not long ago in telling the story of his first money-making effort, "how it grew from year to year. When I was twenty-one years of age the money of which this was the foundation amounted to several thousand dollars."

Two New Essential Oils from Algeria.

P. Jeancard and C. Satic (Bull. Soc. Chim.) describes two new Algerian essential oils, gouft and scheih. The former is obtained by the distillation of an herb with steam and has the odor of absinthe. It contains laevopinene and a trace of an alcohol having the odor of geraniol. Scheih is also obtained by distilling an herb. It has a terebinthous odor and is reddish brown in color. It contains 15 per cent. of phenols soluble in sodium hydroxide solution from which the dimethyl ether of pyrogallol may be isolated. The portion which is not phenol appears to contain thujone and thujol.

The Making *of* Perfume.

BY WILBUR L. SCOVILLE IN BULLETIN OF PHARMACY.

A perfume has been defined as "a caress to the nostrils;" an odor is an undue familiarity. Caresses and perfumes are matters of taste. Some like them soft and some want them strong. One is satisfied with a delicate touch, another craves a hearty slap. One responds to an impress that another does not notice, and the vigorous taste of the second is abhorrent to the first.

The perfumer must meet all tastes, and satisfy them as far as he can. And since there is much in a name, he is expected to satisfy a variety of tastes with perfumes of the same name. One can see this illustrated in the variety of "violet" extracts that contrast with each other in the market.

There is no standard in taste that applies widely, and there is no standard in perfumes that is generally acceptable, even for a single kind of perfume.

Take a rose perfume, for instance. There are extracts to be obtained that imitate the soft odor of a jacqueminot rose fairly closely, and there are those that are pungent and more nearly resemble the geranium. But the verity of the one does not hurt the popularity of the other.

Nor is price any indication of delicacy or trueness, for there is as wide a range of tastes among the rich as among the poor. A perfumer must satisfy the buyer, whatever may be the cost; and really fine and delicate perfumes can be made to sell at a low price. Price, in-

deed, is scarcely an indication of taste, but appeals to other qualities in the buyer.

THE PERFUMER VS. THE COOK.

The art of the perfumer is very similar to the art of the cook. It is very largely a matter of seasoning. Odors, like foods, have to be seasoned to make them appeal. The cook knows that beef needs plenty of salt and a little butter; that pork is relished better with a mild sour, like apple sauce; that fish needs a sharp sour —pickel or lemon; that lamb wants a spicy sour—mint sauce; and that desserts must be flavored and sweetened right if they are to be palatable.

And similarly the perfumer must know the needs of his odors to develop their characters and make them appeal. He knows that rose must have some spice; that violet requires a little "pickling:" that heliotrope must be sweetened, etc. But the cook has this advantage—that the man who prefers Worcestershire sauce on his beef knows what he wants and suits his own taste; that he who likes the sharp Tabasco sauce on his fish will use it; and that all will employ pepper, salt, vinegar and sugar adlibitum.

But the perfumer must do all the seasoning for his customers, and his success will depend upon how accurately he gauges their tastes. He cannot explain to them that some will like more spice in their rose than others, that a delicate violet may be sharpened to suit any taste, and that seasoning can be added to odors as to foods, to please all. For there are many more varieties of spices in perfumes than in cooking; there are a large number of sweet odors, and there are several of the sharper odors. And in perfumes a proper choice must be made, and then only time can "cook it in."

Broadly speaking, the art of the perfumer lies in a proper use of the seasoning odors that may be likened to the pepper, salt, sugar and vinegar of cooking. The perfumer knows his odors much as the cook knows his seasoning.

TO MAKE ROSE ODOR, SAY.

The fundamental odor of a perfume is a simple matter. For instance, oil of rose is the basis of a rose perfume. But every druggist knows that oil of rose and alcohol will not make a perfume. It would be flat, like an unseasoned meat. First it needs "salt." Here comes in the odors that impart stability and develop flavor or odor. Such substances as musk, civet, benzoin, copaiba, Peru balsam, ambergris, cinnamon, etc., are in this category. They "fix" the odor and hold it. They must, like salt, not be prominent of themselves, but their effect on the perfume must be marked. Most perfumes must be well "salted," and some to a delicate taste are disagreeably "salty," but others like them the better for this quality.

Then a rose perfume needs a little "pepper"—used sparingly, of course. There are a variety of spicy odors that permit of a selection: clove, mint, vetivert, patchouli, camphor, geranium, guaiac wood, wintergreen, and a host of the aromatic odors. The results here will depend more upon a proper proportion of the one selected than upon a fine discrimination in selecting, though the latter will be apparent also.

Finally, a dash of "vinegar" will brighten the whole and make it a charm to the nostrils. Here again a selection is to be made from such odors as almond, sandalwood, cedar, hyacinth, heliotrope, lavender, lignaloe, terpineol, etc. The perfume must not be "pickled," but enough of one or more of these is needed to brighten the whole.

Rose, being a sweet odor in itself, needs no sweetening, but some odors would need more of the "sugar" and less or more of the pepper or vinegar, to develop them into acceptable perfumes.

SEASONING HINTS.

So the perfumer must know his seasonings and how to select them, as the cook knows his. He must know their qualities, their applications, and their power. But his art is far more complicated than the cook's, for not only has he a much larger variety of agents to choose from, but time is his only test of judgment.

Soft odors develop on standing; the "pepper and vinegar" odors grow mellow, and many disappear; the "salt" blends and loses its individuality; but all this takes time—weeks and months. Then, after standing for several months, if the perfumer is not satisfied, he must decide whether an error has been made in the selection of some ingredient, or in the proportions used.

Familiarity with odors enables him to judge pretty accurately whether he has too much pepper in his combination, or the wrong kind of spice is present; whether it needs more vinegar, or is already pickled too much; and whether he has enough salt in it to blend well, or whether it is lacking in these qualities.

It is easy to spoil a perfume by a wrong selection of seasoning, or an unbalanced combination. Even to the consumer that likes everything highly seasoned, only a proper blending of salt, spice and vinegar will appeal. And in perfumes, a single erroneous selection may spoil an entire combination, and puzzle the perfumer for a time to learn where the trouble is. Odors may neutralize each other, or a dull or heavy odor may smother a soft and delicate one, whereas a brighter and stronger, perhaps even a ranker odor, may develop the delicate one. The perfumer may not hit the most effective of some class of seasoning in a combination, and yet may succeed with the public to a good degree; but if he happens upon a "salt" that smothers the pleasanter qualities in a combination, the public will be quick to reject the product.

OTHER ODORS.

The secrets of perfumery, then, lie in the proper seasoning of odors. The development of synthetic and artificial floral odors in recent years makes the fundamental odors a very simple matter. Every one knows that oil of rose is the basis of a rose perfume; ionone or oil of orris of a violet perfume; heliotropin of a heliotrope perfume; terpineol of a lilac, etc. But these of themselves are flat. They need just the proper seasoning to make them tasteful. And the "strength" of the perfume will not depend upon the quantity of the basal odor used, but upon its development by the seasoning odors.

Much that is misleading has been written about perfumes—about special facilities for getting basal odors, extreme precautions in qualities, and special facilities for combining or for ripening perfumes.

Quality counts in perfumes just as it does in foods. The best is inimitable, but the public is often content to take secondary grades. Whatever quality they may choose, the seasoning is imperative. And the higher seasonings, the more pungent or "stronger" effects, cover the finest qualities and make them less necessary. The more delicate the odor, the finer must be the qualities of all the ingredients. But whether the public really wants delicate or vigorous odors is a matter of observation.

And as soon as some qualified writer shall analyze the effects of the seasoning odors, and shall establish some simple rules to govern their selection and use, the retail pharmaeist will be in a position to make satisfactory perfumes for himself.

State Registration of United States Trade Marks.

The status of the trade marks which have been registered in the United States Patent Office is indeed peculiar, for under the decision of the United States Supreme Court, which was rendered in the case of Warner vs. Searle & Hereth Company (195 U. S. 191), decided November 30, 1903, many registrations fail to afford the protection which, when filing their applications for registration, the registrants desired.

The authority of Congress to pass laws governing trade marks, and the right to their registration, as well as its authority to legislate on all other questions, is derived from the Constitution; and only when a law is founded on some provision of the Constitution which expressly authorizes, or by way of implication gives power to carry into effieient operation those powers expressly given, is the law constitutional. In all other cases, the law is unconstitutional and of no effect. Examining the Constitution, provisions can be found under whieh Congress is in eertain cases authorized to enact laws for the registration and the protection of trade marks; but Congress is not authorized to register all trade marks, which are used in trade in the United States, and any general law for the registration of trade marks, whieh are the property of citizens of the United States and citizens and subjects of other nations, would, of course, be invalid. The early national trade mark law of the United States attempted to authorize the registration in the Patent Office of all trade marks by their lawful owners, and, as it exceeded the authority vested in Congress, it was declared unconstitutional in the trade mark eases, 100 U. S. 82, which were decided on November 18, 1879.

In that ease Justice Miller carefully considered the eonstitutional provisions and the trade mark laws passed by Congress, and, in his opinion, he stated that of the two provisions of the Constitution under which counsel claimed that Congress was authorized to enact general laws for the registration of trade marks, the first was the elause whieh authorized Congress to enact laws "to promote the progress of science and useful arts by securing for limited times to authors and inventors the exclusive right to their writings and discoveries;" and the second clause was that which, in connection with the granting clause, is as follows: "The Congress shall have power to regulate commerce with foreign nations, and among the several States, and with the Indian tribes." The first clause was held not to refer to trade marks, for neither originality, invention, discovery, science, nor art is in any way essential to a trade mark, nor was it made so under the laws for their registration. Considering the second clause, the Justice stated that "while commerce with foreign nations means commerce between eitizens of the United States and citizens and subjects of foreign nations, and commerce among the States means commerce between individual citizens of different States, there still remains a very large amount of commerce, perhaps the largest, which, being trade or traffic between citizens of the same State, is beyond the eontrol of Congress." As the law did not attempt to limit the right to registration to those cases when the applicant had a foreign trade or a trade with citizens of another State or with an Indian tribe, Congress exceeded the authority vested by the Constitution, and the laws were invalid.

Having before it the decision of Justiee Miller, Congress enacted in 1881 another law for the protection of trade marks, which law is now in force, but because of the decision in the case of Warner vs. Searle & Hereth Company, it is not of the value which Congress intended to give it. The law of 1881, unlike the old law, authorizes the registration of trade marks in the Patent Office, only in cases where the applicant uses his trade mark in commerce with foreign nations or with the Indian tribes, and it therefore comes within

the express terms of the Constitution, and the validity of the statute has not by the courts been questioned. The difficulty arises because of the construction which is given to the statute. In his decision construing the statute, the Justice states that as the law of 1881 was enacted to avoid the unconstitutional features of the old law, and as it expressly limited the right of registration to those marks which were used in commerce with foreign nations or with the Indian tribes, he held that a trade mark registration under the provisions of the law was not infringed unless the defendant injured the registrant's trade because of his use of the mark while engaged in foreign commerce or in trade with the Indian tribes. When the person copying the registered trade mark does not engage in commerce with a foreign country or with an Indian tribe, he cannot be held to have infringed the registered trade mark; for otherwise it would be possible for a registrant to secure the privileges which Congress previously attempted to confer under the general law, and which it was held that under the Constitution could not be done. It is therefore impossible for the owner of a trade mark to prevent, under the United States registration statute, its infringement, when the infringer is doing business in only one State, for Congress cannot enact a law protecting a trade mark in such a case; and where the infringer uses the mark in commerce between the States, the infringement cannot be prevented under the national registration laws now in force, for they do not provide for the protection of trade marks in interstate commerce, although the Constitution authorized Congress to enact laws for the registration and protection of trade marks which are used in commerce between the States. Until that amendment is made, and in all cases where the proprietor of a mark wishes to be sure that his trade mark is protected, by all the provisions of the law, against infringement by persons engaged in business in only one State, it is advisable to comply with the trade mark registration laws which have been enacted by the legislators of many of the States.

While the protection afforded by a United States registration has been, by the decision referred to, limited, it is nevertheless important for manufacturers to secure the registration under the federal laws, for the Patent Office is an office of record, to which persons all over the world refer for evidence of the ownership of trade marks in the United States. The rights of seizure under the United States statutes and the remedies afforded for the infringement of marks are also of considerable value where the infringer is engaged in foreign trade.

When the proprietor of the trade mark and the infringer are citizens of different States, the federal courts have in many cases jurisdiction, independent of the Patent Office registration, but the rights of the parties are then founded on the common law, and not on the statutory registration.

Standard Oil Lard Tierces.

Whatever else may be said of the Standard Oil Company, it must be admitted that it has as shrewd a business management as the world affords. The packing house trade is a large contributor to its profits through Standard Oil methods. In the language of a large packer, "the Standard Oil is the slickest thing in the business. Those fellows never take their eyes off of the profits."

An example of this big trust's smart enterprise is furnished in the matter of tierces. The lard, tallow and oleo renderers can buy Standard Oil barrels, new, at at least 50c. per tierce cheaper than they can those of other cooperage package concerns. The large packers make most of theirs. The smaller plants cannot profitably do so. The Standard Oil people were the first to realize that there was a profitable field in this direction. The company conceived the idea of conforming the standard size of its own oil barrels to that of the export tierce of the packer, and then proceeded to clean up the field.

The modus operandi is very simple. The Standard Oil tierces are made and sold to whomsoever will buy at 50c. per barrel less than the current market price of such packages. These tierces finally land on the other side of the water. The minute they land in Europe the Standard's people come back on the scene, and the reason for their price cutting and generosity on this side is at once clear. After the lard, tallow or oil is sold these tierces, as "empties," come back upon the market. They have but little value to any one over there in the packing trade. There is but one customer to whom they are of any value. That is the Standard Oil Company. This big petroleum concern has its "suckers" out all over Europe drawing in these empty tierces, which they get at a mere nominal sum. The tierces are well soaked. They suit the Standard as well as new ones.

It may look small in the Standard Oil Company to be scouring Europe for empty lard, tallow and oleo tierces, but they are figured in the company's business scheme, and, if the original idea in their manufacture is not lost sight of, they are made by the Standard Oil Company for ultimate use in that corporation's business. Of course, all of the tierces sent abroad are not gobbled up on the continent as "seconds," but the Standard loses only 50c. on each of those that slip through its drag net, and it saves so much on the vast number recovered that the small loss on the vagrants

is not missed, at least hardly missed. When each tieree is sold on this side at 50c. below the market it is with the view of getting it into that commercial drift which will land it on the other side and, ultimately, into the warehouses of the Standard Oil Company, which pumps it full of kerosene and other oils. By this clever ruse the big kerosene outfit makes the exporter of lards, tallows and oleo pay the freight, insurance and customs charges on the other side and all costs of whatever nature to get these barrels over. All the company then does is to hang around and pick up these tierces virtually at rubbish prices, take them out of the merchant's way at a small figure, get them to the concern's warehouses scald them out and fill them with oil for the European trade. This oil is carried over in tank ships and pumped into the company's local reservoirs. It is a slick, clean business game. By getting these barrels the renderer on this side saves at least 50c., and the Standard gets back this 50c. and a lot more. It also saves a lot of shipping trouble and expense incidental to importing American staves or casks into Europe. No harm is done to any one. The paeker is glad to get these tierces at 50c. below the market for such packages; the merehant on the other side is glad to get rid of the empty, useless thing and save both room and annoyance; the oil company is glad to get them back for its purposes at a mere nominal sum.

This is but one of the shrewd business moves of the Standard's management into the sphere of the paeking house industry. The cottonseed oil end of it has been influenced. Just how near this concern's enterprise touches the zone of the car tank for the interchangeable transportation of cottonseed oil and petroleum is not known in outside circles, but an interest lies there. The tierce serves as an illustration.—The National Provisioner.

German Washing Powders and Laundry Soaps.

In view of the huge number of different soaps and washing powders that are assiduously puffed, the laundryman has to be very careful what detergents he buys for his laundry.

In the first place, all washing powders and soap powders must be rigidly avoided. It is true that they make easy work, and are more easy to dissolve than soft and grain soaps. Really useful soap powders are few and far between, and they may invariably be known by their price being very little less, and sometimes more, than that of an ordinary soap. Many soap powders are incompletely saponified, because they have been merely mechanically mixed, and, their ingredients have not been boiled together. They are nothing but mixtures of soap, fat and soda, and for washing which can be injured by caustieity, or by being smeared with grease, they mean utter ruin. The cheaper the powder the more soda it contains. There are plenty of dishonest manufacturers who sell soap powders containing about five per eent. of soap as the best possible washing material for laundries. Now the washing power of a powder resides in its soap alone. The soda, beyond as mueh as is needed to soften the water, is simply injurious to the goods. And how does this soap powder stand as regards priee? Let us compare a pure grain soap eosting 25s per ewt. with a soap powder at 10c per ewt., a priee at which it eannot contain more than twenty per. cent. of soap. We have in a cwt. of it, therefore, soap eosting 5s, soda eosting 2s 4d, the price of soda being about 3c per cwt., total 7s 4d. Hence, by using soap and soda and mixing them ourselves, instead of buying powder, we save 10s, less 7s 4d, i. e., 2s 8d per ewt.

Before entering upon the question whether a grain or a soft soap is best for laundry purposes, we should like to impress upon washing laundry proprietors the great importance of having their water supply analyzed. The expense of a guinea or so thereby incurred is riehly repaid. Nearly all water contains lime salts, and many contain salts of iron and magnesia. Sueh waters must always be softened before any soap is allowed to toueh them. If this precaution is neglected insoluble lime soaps, etc., are formed, which have no washing power, and not only waste the proper soap, but stain the washing and cause the machines to want constant eleaning. The water is softened with the amount of earbonate or soda directed by the analyst. It should then be allowed to settle, and the clear water drawn off for the dark floeculent sediment.

The best soap to use is a good mild soft soap. Soft soaps lather better than the hard or soda soaps, so that they loosen the dirt better and make the washing more supple. Soft soaps with a filling of potato meal are to be entirely rejected. More of them has to be used, as the meal has no washing power, and they mess up the machines terribly. A cheap grain textile soft soap may be used for eoarse washing. As the water has been previously softened no soda is necessary in the washing, and none should be used.

Grain soaps are the cheapest, but waste much time by the slowness with whieh they dissolve. They are the cheapest actually, because, although not the cheapest nominally, they contain at least fifty per cent. of combined fatty acids, while a soft soap only contains from forty-two to forty-five per cent. Hence they make more washing liquor than an equal weight of soft soap.

Soaps containing resin should be avoided, especially as they make woolen goods felt. If it is certain that there

is only a little resin, however, little harm is done, and the soap lathers more readily than without it.

The following may be taken as the best soaps for the class of washing named:

Fine washing: Tallow and turpentine soap, with soft soap, olive oil (Marseilles) grain soap.

Wool washing: Tallow and turpentine soap, white or green Marseilles soap.

Household and table linen: All the above soaps, and also cheap olive oil soft soaps and textile soaps.

Very dirty washing: All the above soaps, especially textile soaps. Use rather more soda in softening the water.

Although the use of soap powder and other washing powder is increasing, many launderers, especially managers of steam laundries, are beginning to hold the opinion that a fairly good soap of known composition is a better cleaning material to use than compounds of more or less mysterious composition. Powders are sometimes useful in household washing, but they are unfit for the purposes of a steam laundry where the mechanical treatment of the goods is of a far more energetic character.

Another point to be borne in mind is that while uniformity in strength and quality of the detergents used is of first importance in a steam laundry, the quality of any particular washing powder is liable constantly to considerable variation. It is a very penny wise policy to stint the soap bill. The result may be that the launderer finds himself liable to pay compensation for ruined washing.

There are certainly a few good washing powders on the market, but they are the exception, and although they can be used with advantage, the evil properties of the majority are rapidly causing laundrymen who value their reputation to be chary of trying any substitute for soap, whatever advantages may be claimed for it.—Deutsche Wäscherei Zeitung.

Bears Grease.

According to Raikow, fresh bear's grease is very similar to lard—coarse-grained in structure, pure white, clear and partly translucent; the belly fat is clearer and softer than that from the kidneys, and has a faint, agreeable smell of lard. When kept for twelve months in a sealed bottle, the unmelted fat goes somewhat yellow and slightly rancid, whilst the melted fat keeps perfectly sweet and white. The chopped fat, placed in a test-tube plunged into an oil bath at 250° C., quickly melts and assumes a pale yellow tinge, but does not evolve any vapors capable of acting on blue litmus paper. The sample for analysis was melted, as in an oil bath, at 160° C., filtered while warm, and stored in closed flasks. It was slightly yellow, and semi-fluid at the ordinary temperature, with white, granular matters in suspension. The solidification point is not easy to determine, the fat being merely of the consistency of ointment at zero C. The solubility in alcohol is but slight. The specific gravity is given as 0.9104 at 25° C., and 0.9209 at 15° C. for the belly fat, and 0.9211 at 15° C. for the kidney fat. The acid value of both is 2.2 to 2.3, but while the ester value of the belly fat is only 192.6, that of the kidney fat is 198.1 to 198.3. The iodine value of the belly fat is also lower than of the kidney fat, being 98.5, against 106.5 to 107.4. The Reichert-Meissl value is 1.66 for the belly fat and 1.15 for the kidney fat. The melting points of the insoluble fatty acids, determiney by the Pohl method, are 32 to 32¼° C. and 30½ to 31° C. respectively, and both fats give the same refractometer index, viz., 61.2 at 25° C., and 53 at 40° C.

In comparison with the most nearly allied fats (dog, fox and cat fats), bear's grease is of lower specific gravity and melting point, but much higher iodine value, the differences being attributable to the nut diet of the bear. With regard to the constants given above, the iodine value do not follow the rule discovered by Henriques and Hansen, according to which the iodine value of animal fats is lowest in those obtained from the internal organs, the converse being the case here. A similar tendency is exhibited by porpoise fat.—Chemiker Zeitung.

The Frasch Method of Preparing Caustic Alkalies.

M. Frasch has previously described a process of decomposition of a double salt of nickel and ammonium, and has recognized that this salt, insoluble in ammoniated solution, may be employed for the manufacture of caustic soda or potash, the hydrated nickel oxide serving to produce a reaction. The double salt being insoluble, is precipitated. It is separated by filtration or otherwise from the liquor and from the hydrate of sodium, and is converted anew into hydrate.

When this reaction takes place by boiling in water, the ammonia is recovered in the anhydrous state, while the nickel is recuperated by filtration in the form of hydrated oxide of nickel. These two bodies may be utilized again.

For obtaining the initial ammoniacal solution the anhydrous oxide of nickel may be employed in place of the hydrated oxide; also the hydrated oxide of cobalt may replace that of nickel, without the resulting reaction, being changed, and any hydrated oxide may be employed, of a metal capable of forming with ammonium a double salt insoluble in the ammoniated solution.

For operating the process the hydrated oxide of nickel may be treated with a solution of ammonia and thus a solution of hydrate of nickel and ammonium obtained.

Sodium chloride is then added until all the nickel is precipitated by the solution in the form of a double chloride of nickel and ammonium. This chloride is separated from the residual solution by filtration, then mixed with a milk of lime containing sufficient hydrated lime to absorb the chlorine contained. The free ammonia is distilled by the heat, and may be separated anew for dissolving additional quantities of hydrated nickel oxide.

Another manner of conducting the process consists in saturating a solution of sodium chloride with ammonia and adding to it hydrated nickel oxide. The hydrated nickel oxide may also be exposed to the action of anhydrous ammonia until complete saturation, and then treated with the solution.

The solution of sodium chloride containing caustic soda may be submitted a second time to the same treatment, and the sodium hydrate may consequently be concentrated, the final concentration being obtained by heat, and the sodium chloride still present being separated by crystallization. Potassium chloride may be employed in place of sodium chloride, and the hydrate of potassium produced by the same process. If sodium carbonate is desired in place of caustic soda, it is sufficient to replace the oxide of nickel or of cobalt with the carbonate.—La Revue des Produits Chimiques.

Benzine, Naphtha and Gasoline; How Do They Differ?

Over in New Jersey there is a man who signs his letter "Benzine," (the spelling of which pseudonym shows that there are more things undiscovered by his diligent research than he suspects), who "wants to know." When we see a fellow druggist in that state of mind, our heart and hand go out to him, and such information as we possess is his to command.

The Jerseyman, who lives not so very far from the great tanks of the oil company, has been reading the books and interviewing the trade in a vain search for a well-defined difference between the various lighter products of petroleum distillation. He reports: "The whole literature upon the subject within my reach is rather vague, indefinite and conflicting. In pharmacies they generally dispense one for the other here, as the liquids are used for cleaning purposes generally." He went to an oil dealer for information and learned from him that at the oil yard, he called for naphtha on one occasion and saw the man draw it from the barrel marked "Benzin," and, upon his objecting, he was told that if the handle of the faucet was turned to the right naphtha came forth, and if to the left, benzin.

This indefatigable searcher after information then turned to "Benzin" in his United States Pharmacopoeia —a most excellent place to go for information about some article—and found that the official liquid has a specific gravity of 0.670 to 0.675 at 15° C. (59° F.), and a boiling point of 50° to 60° C. (122° to 140° F.). The Pharmacopoeia also gives some other tests as to the purity of benzin, and in states where there are laws requiring druggists to keep their official preparations up to pharmacopoeial standard, it is especially important that the article be able to stand these tests.

The correspondent then consulted the dictionary—which is as poor a place to go for exact technical information, generally speaking, as the Pharmacopoeia is the reverse—and found that naphtha was there described as being lighter than benzin but as having a greater specific gravity than the Pharmacopoeia requires benzin to have. This, to say the least, was confusing.

And so he went, from book to book—some English, some German, and some issued as price-lists by American houses—and as the prestidigitator might express it, the closer he watched the less he saw.

For druggists, of course, there is only one standard for official articles, and that is the Pharmacopoeia, but as gasoline and naphtha are not pharmacopoeial, the best usage of the trade is the safest guide for dealers in these things.

In the New York office of the largest producers in the world of petroleum, a specialist informed us that names changed according to the custom of the trade, the petroleum distillate which might have been sold under one name ten years ago, might now be known by an entirely different one. This would seem to explain, or help to explain, the discrepancies found in the books. The same specialist now describes "naphtha, crude," as testing from 68 to 72° by the Baume scale; "naphtha, sweet" (benzin), as testing from 62 to 63°, "naphtha, stove," from 68 to 74°, and "gasoline" as ranging from 86 to 90°.

Degrees Baume are converted into specific gravity by various rules, one is to divide 144 by the given degree plus 134. According to a table published in the seventeenth edition of the United States Dispensary, taken from the French Codex, 62 degrees Baume equals 0.735 specific gravity; 63 equals 0.731; 68 equals 0.713, and 72 equals 0.699.

Inversely, benzin of the pharmacopoeial specific gravity, 0.67 to 0.675, would test about 81 to 79.3 Baume. The manufacturer referred to states that no such benzin is made.

E. H. Gane has made an exhaustive study of the subject, and in a paper read before the 1903 meeting of the American Pharmaceutical Association he stated that the difficulty, if not impossibility, of obtaining petroleum ethers of fairly constant boiling point, was the cause of common complaint among chemists. Mr. Gane by actual experiment ascertained that different portions of the same sample "went over" at the same temperatures

when the distillation was carried on with different degrees of rapidity. Even a portion which "went over" between 50° and 60° C. in one of his experiments, was redistilled, and 15 per cent. of it went over before 40° C. was reached; and even after the temperature had reached 80° C. there remained 25 per cent. of the sample in the still.

Correspondence with the manufacturer of naphtha showed to Mr. Gane that they were aware of the difficulty, and brought only the statement that "if you are not satisfied with the product furnished, he would rather be excused from supplying it."

Thorpe's "Dictionary of Applied Chemistry" gives the following classifications: Rhigolene boils at 18° to 20° C.; gasoline, 70° to 90°; naphtha, 80° to 110°; ligroin, 80° to 120°, and benzin, 120° to 160°, but these distinctions have given place to those made by each manufacturer to suit himself, and Mr. Gane finds, as did our correspondent, that the manufacturers apply various names, differently, to the same product.—Druggists' Circular.

Refining Cottonseed Oil.

For refining cottonseed oil, the most suitable reagent (says the Chemiker Zeitung) is caustic soda in the form of a solution of 15° B. strength. The amount necessary for the process is determined by titrating an alcoholic-etherael solution of the oil with decinormal caustic soda and phenolpthalein, assisted by gentle heat and agitation, until the desired degree of decoloration is obtained.

In the process of refining, the precipitated coloring matter produces a coagulation of the soap, which has up to this point remained in solution. The oil is said to "break," the appearance of which phenomenon indicates that the reaction is complete. The oil is placed in a large rectangular tank, and the necessary amount of soda lye is poured in as a thin stream, the temperature being maintained a little above 20° C., in order to prevent the separation of stearin. On the other hand, the temperature must not be allowed to exceed the above limit, or the undecomposed oil will undergo saponification. An air jet is employed to ensure the intimate mixture of the oil and alkali, this being found to act more efficiently than any mechanical appliance. When the oil is seen to "break," heat is gradually applied by means of a steam coil, until the temperature reaches 40° C., and then more rapidly to bring it up to 50 to 60° C., agitation being continued until the soap is black from the imprisoned coloring matter, and has separated in large flakes, which subside when the oil is left to settle. A temperature of at least 50° C. is necessary to secure the balling of the soap.

Any unnecessary heating of the oil will be productive of waste, and impair the flavor of the oil. For oil of fair quality, 52 to 55° C. will usually be sufficient. Should the oil on "breaking" appear darker in color than is desired, a further addition of lye may be given; but this is inadvisable, seeing that at this stage it has but little influence on the color, and exerts a saponifying action on the undecomposed oil.

Oils and Fats.

On January 25th, at the Society of Arts, Dr. J. Lewkovitsch, M.A., F.I.C., commenced a series of four Cantor lectures on oils and fats, their uses and applications, before an attentive and appreciative audience of members and visitors. Sir Henry T. Wood was in the chair. Dr. Lewkowitsch said, in its widest sense the subject embraced not only these familiar products, oils and fats, or the products derived therefrom, with which everyone was acquainted, such as candles, soaps, but it also included some branches of the agricultural industries, for not only the cultivation of oleaginous seeds and the growing of oil-yielding fruits, but also the raising of fat stock, fell within the province of the industries which would occupy their attention in these lectures.

The oil and fat industries filled a very important part in the domestic economy of our lives, especially if one included the industries of edible oils and fats. He did not intend to treat the subject from a historical point of view, but would plunge straightway into the present state of the industry. From the figures which were placed on the screen they would gather that the industries with which he was dealing belonged to a branch of economic industry which had found some of its highest developments in this country, and which could favorably compare both in extent and scientific importance with any country on the Continent. In order to give them an approximate idea of the enormous sums that changed hands in these industries in this country alone, he would place before them tables of returns taken from the Board of Trade for the five years 1897 to 1902.

Slides were then exhibited on the sheet showing imports, exports, re-exports, and on a fourth slide a summary of these figures was given.

SOURCE OF SUPPLY.

With regard to the source of supply, the fatty oils and fats occurred in every part of the vegetable and animal organisms. They accumulated, however, in certain parts of the plant or animal in greater quantity than in others. In plants, they were generally contained in the fruits or seeds in some considerable quantities, so that their extraction became commercially feasible. They were able to produce fatty oils and fats

scientifically from fatty acids and glycerine, and it might be possible to manufacture fatty acids themselves from petroleum, hydro-carbons, still an unsolved problem. Nature, however, had so bountifully supplied them with the raw material, that the production of oils and fats by a synthetical method would for a long time to come lie outside the domain of practical considerations. As the supply of home-grown oleaginous seeds was altogether a negligible one, and, further, as the quantities of home products, fats such as lard, tallow, butter, played an insignificant part as compared with the quantities that were required, foreign sources of supply forced themselves at an early stage of the industry on to the attention of the manufacturer. Owing to the geographical position of this country, it was no wonder that the earliest works which were erected in England rapidly migrated to the great seaports.

The lecturer then gave a graphic description of the principal oilseeds dealt with at those ports.

Enormous as were the quantities that were thus imported and worked up in this country, still they only represented a small quantity of the oleaginous seeds that nature offered us.

China and Japan still possessed vast stores of seeds, such as bean seed, tung seed and others which were only awaiting industrial application. India was especially rich in large quantities of oleaginous seeds, which were not worked up yet commercially. All that appeared to be required were better communications to bring these products to the sea, and to stimulate increased cultivation of them. Still vaster were the hard vegetable fats which tropical countries such as India, the Sunda Islands, South America, and Tropical Africa were able to furnish us for our soap and candle industries. Hitherto only two or three kinds of vegetable fats had found extensive use in this country, namely, cocoanut oil and the two oils obtained from the palm-tree, palm oil and palm kernel oil. Smaller quantities only of other fats such as mowah seed oil, mahua butter, reach this country, whereas the Continent of Europe seems to be less conservative in the choice of its raw material. Thus Chinese vegetable tallow seems to be chiefly worked up in Marseilles and in the North of Europe, whereas only comparatively small quantities reach this country. The vast stores which the Malay Archipelago can furnish seem to be, comparatively speaking, practically unknown to the majority of manufacturers in this country; that was not the place to examine whether this was due to the want of communications or to the want of enterprise and the indolence of the natives. In the case of palm oil, it could certainly be introduced in much larger quantities. It is owing to the deadly climate to Europeans and the laziness of the nigger that one of the most admirable raw materials of our staple industry cannot be obtained at a price which would be unquestionably much lower than that at which it was supplied at present. Nor did it appear that those who were interested in the shipping trade of West Africa took those steps which seemed to be required to foster this industry. They ought to follow the example of Germany, who, since she had entered into possession of the Colonies on the West Coast of Africa, had taken the most energetic interest in promoting the cultivation and production of these fatty materials which formed one of the chief exports of the Guinea Coast. Only lately they had offered a prize of only £75 for the construction of a machine for a method of treating the palm fruit on the spot, and no less than 80 manufacturers had applied for the prize. They might confidently expect that our Imperial Institute would, like similar institutions on the Continent, help in arousing the interests of the manufacturer, and place before him the treasures that were still lying unused in our Colonies. Here he might mention that one of the rows of bottles containing seeds which were exhibited on the table in front of him had been kindly lent him by the Imperial Institute for that night, and anyone interested could study the subject in Exhibition Road. He could not dwell at any length on the samples before them, but must content himself with having hinted in a few words at the possibilities that might reasonably be expected to become actualities.

As to the animal oils, he could only devote a minute or two to those derived from the marine animals. It was only natural that in this country these oils should be produced on an extensive scale, and he was therefore able to place before them a somewhat complete collection of marine animal oils, such as seal oils and whale oil, etc. The industry of medicinal cod liver oil was small, whereas the industry of commercial cod oil and fish oil had received enormous impetus in recent years through the replacing of the old sailing crafts by fast steamers. Thus they obtained large quantities of oils for the tanning industries, but even they did not seem to suffice, for they had to import very considerable quantities of cod oil from Newfoundland and fish oil from Japan.

Turning to the solid fats of the animal kingdom, the production of lard, tallow, and butter in this country is but an inconsiderable quantity as compared with what we import. The changes in the source of supply that have occurred during the last twenty years did not seem to be so well known. The name of St. Petersburg yellow candle tallow, P. Y. C., once a household word with the tallow chandler and soap maker, had passed away into the limbo of things that were. Russia, instead of exporting tallow, had become a large importer of Australian tallow. Up to a few years ago the United

States of America had been supplying this market with a large amount of its requirements, but it seemed as if the United States of America would, in a few years, drop out of the ranks of the countries that could spare any of their supplies for us. Australia, New Zealand, Argentina, were now the chief sources of supply for this indispensable product, and he hoped that under the benificent rule now established in the Transvaal and the Orange Colony, these countries would also become great cattle-raising centers. Large as the trade was in "home" tallow, not even the most experienced dealers seemed to be able to give any correct figures as to the amount produced in this country. From the first table shown on the screen, they had seen the enormous amount of butter that was imported into this country. Denmark, Holland, Sweden, Siberia, etc., were all competitors in that market, and it was to be hoped and expected that under the stimulus of extended consumption improvements in cold storage methods would permit the products of the Antipodes to reach us in the same state of freshness as they arrived from the surrounding countries. As regards lard, it was well known that our chief supplies came from the United States of America, where in the enormous packing houses as many as 10,000 hogs were killed per day and worked up on the same day into all the products that can be obtained from them. In the desire to produce the largest possible quantity of lard, the word lard had ceased to have its old meaning, and in many cases it must be understood to mean the fat that came from any part of the hog.

The methods of producing oil dated back to the remotest times in the history of mankind, and it was obvious that the technical appliances of the present day must range from the simplest devices up to the most elaborate machinery employed in this country. Time did not permit him to do more than contrast, by means of a few slides, the present-day manufacture of palm oil and Chinese oil with the most elaborate machinery in vogue in this country.

These slides having been exhibited, the lecturer, continuing, said the modern processes divided themselves into two classes, the recovery of oil by expression, and the recovery by the extraction of volatile solvents. He thought it would be best to illustrate by means of slides the preliminary preparation of the seeds.

The lecturer then described, as they were shown, various slides illustrating different machinery used for preparing copra, palm kernels, arachis, castor seed, cottonseed and linseed. A number of slides were also shown of crushing machinery, and for converting seeds into cake and oil.

The lecturer then explained the processes for the production of oils by extraction, and exhibited slides of the machinery employed in those processes, including the machinery used both for cold and hot solvents.

Finally, the method for the production of animals fats were explained; the manufacture of the five commercial brands of whale oil from the blubber oil was especially gone into, and samples exhibited.

In conclusion, he said they had seen how the raw material was obtained. In the next lecture he would consider what processes were applied in removing the gross impurities they contained, and how they were prepared for the various commercial uses and technical purposes for which they were required.

Styrax.

This aromatic resin, obtained from Styrax officinalis L. by incising the bark, is produced almost exclusively in Syria, Karamania, Asia Minor, the Grecian Archipelago, and the Red Sea littoral. According to Bersch, it appears in commerce in several forms:—

(1) Drops or tears (Styraxo granulata in granis, in lacrimis). This kind comes from Karamania, and is shipped in boxes to Smyrna, Constantinople, and Marseilles. The best quality, almond styrax, contains numerous white, clear granules.

(2) Calamita, or Styraxo in massis, is the gum scraped from the bark after the first runnings have been gathered, and is mixed with that exuding from the trees under the influence of the sun's heat, and that which has run down on to the ground. The mixture is sent to Cyprus, where it is melted down in pans, and purified by sedimentation, the impurities being skimmed off, and the dirt and other heavy substances deposited at the bottom of the pan.

The product furnishes the third quality (Semona di storace, or Scobs storacina), which is packed in bags, and is regarded as good when of a fine brown shade, soft and greasy to handle, with a very agreeable aroma, and sweet balsamic taste.

(4) Common styrax (Styrax vulgaris) is met with as large, light, compressed brown or white cork-like balls, which, however, contain but little of the actual resin, and are of low value.

There is also another kind of styrax, namely, liquid-amber (Liquidamber styrax liquidus, balsamum styracis). This is a natural balsam from the Oriental amber tree (Liquidamber orientale, Liquidamber imherbe), and is produced in the district of Aidin. Another kind of soft styrax comes from Rhodes and Chios, where it is obtained by pressing the twigs of an aromatic plant known as Bachuri. The residue is pressed a second time, and yields a nearly black oil, which is said to possess curative properties, while the final residue is utilized as a fumigant.

The annual production of styrax in Rhodes is something like 100 to 120 tons, the whole of which is exported—some direct to India and China, some to Marseilles, Havre, Trieste, Hamburg, Rotterdam, and Genoa, whence a part is reshipped to the Orient. According to the reports of the Italian Chamber of Commerce at Smyrna, only 85 to 90 tons per annum are produced there. The average price in Smyrna is £40 to £42 per ton, f. o. b., and the freight to Europe is about 16s., to India 40s., and 60s. to China. The stock of last year's crop in Rhodes is about 50 tons.

The pure liquid styrax is as thick as turpentine, soon dries, has a sharp, bitter taste, an agreeable smell, and is soluble in four volumes of alcohol. Both the solid and liquid styrax contain ethereal oil (which imparts the agreeable smell) and benzoic acid. The spent bark of the styrax tree (Styrax officinalis L.) is put on the market under the name of Indian incense.

Oriental styrax is not a merely modern article, having been mentioned by Strabo as obtained from large plantations on the slopes of the Taurus. He describes the method of preparation, and states that the natives employed the product for anointing their bodies.—Organ Oel und Fett-Handel, after Oil and Colorman's Journal.

Corrosion of Steam Boilers.

In a paper recently published in a German contemporary (Stahl und Eisen) Mr. L. Vogt takes exception to the current practice of judging the availability of boiler-feed water exclusively according to its hardness, i. e., its percentage in substances susceptible of forming scale. According to him, the remaining components of the water should also be ascertained, as these give rise to repairs much more frequently than the former and even directly result in explosions. This problem is the more important, as cleaning the water will in many cases produce strong corrosion, when, relying on the efficiency of the cleaning, the boilers are kept in operation for too long a period. In most cases, the prevailing substances forming scales, namely, sulphates and bicarbonate, are precipitated by means of soda and lime water, sodium sulphate being dissolved and pumped into the boiler along with the cleaned water. After the water has been vaporized the sodium sulphate will remain undissolved in the boiler water. Now as with continued cleaning the concentration of the sodium sulphate is increased up to rather higher figures, this salt will finally exert corrosive effects on the boiler wall. The various nitrates and chlorides always present in boiler water will, especially in the presence of air, be even much more noxious. Of all these substances, magnesium chloride seems to be the most noxious, barium and sodium chloride coming next.

In order to obviate the destructive effects of such substances as do not form scales, the author suggests maintaining their concentration below the limit at which they attain the property of attacking iron. It should, however, be borne in mind in this connection that a thorough intermixing of the water does not take place except in boilers with very active water circulation, whereas in many other cases the average concentration found by calculation is not immediately available for deciding the question at issue, which depends, on the contrary, on the maximum value of concentration, as obtaining at the point of strongest vaporization, i. e., in the neighborhood of the heat source. The author thinks soft water containing a not immaterial percentage of salt remaining in solution to be more dangerous in this respect than a water otherwise equivalent but containing a higher percentage of scale formers, sheet iron being the more easily destroyed as its surface is of higher metallic purity. As regards the question as to whether cast iron or wrought iron offers less resistance to corrosion, Mr. Vogt thinks cast iron not to be less advantageous than wrought, corrosion being most likely due not to the material of the boiler but to the quality of the boiler water.

In testing a specimen of water, the minimum amount should be 3 quarts, so as to allow of a good quantitative analysis being made together with a checking analysis. Should it be necessary to use inferior water, parts of the contents of the boiler would have to blown out every week and the boiler emptied out every 6 or 8 weeks, rinsed, and filled with fresh water. In the case of soda being not objectionable, owing to manufacturing reasons, a daily addition of soda of sufficient strength to give a slight alkali reaction would be advisable.

Essential Oils.

J. A. L. ROBINSON, NAPANEE, ONT.
(CANADIAN DRUGGIST.)

The Essential or Volatile Oils are an extensive and important class of bodies derived from the vegetable kingdom, save a few, which are found in the bodies of animals, oil of ants, for example.

They are the volatile, odorous, liquid proximate principles either found already formed in parts of plants (as lemon oil), or formed by the action of peculiar ferments upon certain other plant constituents (as oil of mustard).

They are prepared from plants by expression, as in the case of oil Oil Lemon and Orange, or by distillation with water. The process called cohobation or the re-

distilling several times of the distilled solution with fresh quantities of the substance is resorted to, where the proportion of oil in the substance used is so small that it is wholly dissolved in the distilled solution. This redistilling is kept up until more oil passes over than the water will dissolve.

Essential oils are composed of two components—one containing oxygen, the other free from oxygen—called Stearoptens and Terpenes, respectively.

All Stearoptens at ordinary temperature are held in solution by terpenes, many crystallize out at low temperature; in Oil Anise and Rose the crystallization takes place at a temperature slightly below ordinary. In 1840 the analytical investigations of Volckel, Schweiser and Varrentrapp first enlightened us on this point by the analysis of Oil of Carraway into Carvol and Carvene.

Essential oils mix in all proportions with fixed oils, and fats forming pomades dissolve freely in alcohol, making flavoring extracts and perfumes, and are sparingly soluble in water, forming the medicated waters of the British Pharmacopeia.

Of the twenty-five official essential oils, five are heavier than water—the oils of Mustard, Cinnamon, Allspice, Cloves and Wintergreen; the other twenty vary in specific gravity down to 0.856 and 7, the specific gravity of Oil Rose and Lemon. The lightest true Essential oil is Oil of Citrons, S. G. 0.847, and the heaviest Oil Sassafras, 1.096.

Many essential oils, when exposed to air and light, by developing ozone, become turbid, deposit a resinous residue, lose more or less of their flavor and acquire a tere binthinate odor and hence should be kept in a cool place in amber glass bottles, well-filled, as far as possible. Oil lemon and orange may be efficiently kept fragrant by adding and mixing one ounce alcohol with every pound of oil, then add one ounce of water which again withdraws the alcohol from the oil and it collects at the bottom of the oil as dilute alcohol, where it should be left until the oil has been used, with an occasional shake up after the bottle is opened and contents exposed to the air.

Many ways are recommended to purify essential oils deteriorated by age. M. Curieux submits the oils to the action of a solution of Borax rubbed up with animal charcoal; shake the borax mixture with the deteriorated oil for fifteen minutes and after separating the two solutions, filter. Mr. Bullock, of Philadelphia, recommends agitating four pounds of oil with one ounce potassium permanganate dissolved in eight ounces water. Decant the oil, mix with warm water, shake again and, on standing, the purified oil will float clear on the surface.

There is no class of preparations which are so often grossly adulterated when they come into the hands of the Canadian Druggist as essential oils. I shall run over a few frequent adulterations with simple tests for detection of same.

1. Test for presence of fixed oils.

Place a single drop of the suspected oil on white paper and expose to heat for a short time; if pure it will entirely evaporate; if fixed oil is present a greasy spot will be left. Again, if fixed oil is present when the suspected oil is agitated with four times its volume of 95 per cent. alcohol, there would be a residue undissolved which is saponifiable.

2. Test for presence of alcohol.

Agitate with the oil a small portion of dried chloride of calcium; if the oil be pure the calcium chloride will remain unaltered, but it will dissolve in oil containing alcohol and the resulting solution will form a distinct stratum at the bottom of graduate, or, if a little water is added to the suspected oil, the presence of oil is detected by milkiness and loss of volume. Again, add a few grains of potassium acetate and a drop or two of sulphuric acid; if alcohol is present, there will be the fruity odor of acetic ether. It is a general practice to add strong alcohol to essential oils to render them transparent—oil cassia is nearly always treated thus.

3. Test for the presence of cheaper volatile oils.

Place a drop of oil on clean blotting paper and smell occasionally; the difference of odor at the beginning and toward the end of evaporation will show the adulteration. Redistilled oil of turpentine is largely used to adulterate highly scented essential oils such as lavender and peppermint. It may be detected by remaining undissolved when the oil is agitated with three times its volume of 95 per cent. alcohol. In essential oil of almonds look for cheaper oils, particularly (nitro benzole), the artificial oil of bitter almonds; also alcohol. In oil of Bergamot look for alcohol, oil lemon and turpentine. In oil of lavender look for alcohol, or alcohol and santaline; also oil of turpentine. In oil of neroli look for alcohol or alcohol with oil of orange leaves. In oil of rose look for oils of rhodium, sandal wood, geranium, also camphor and spermaceti.

The chemist, who at some future time is called upon to record the enormous advances in pure and applied chemistry will not be able to ignore the testimony of the essential oil industry in the restless activity of the age. The ancients knew a few essential oils; others were discovered from time to time, but the light of scientific research into the secrets of the plants from which they are prepared, revealed to chemists a vast field for scientific and commercial labor. The work was carried on in two directions. The one to prepare artificial essential oils by synthesis (as synthetic wintergreen oil); the other by analyses or isolating the stearoptens from the terpenes as in the manufacture of menthol and the ter-

peneless essential oils. By fractional distillation the valuable constituents of essential oils are separated from the less valuable, or, for practical purposes, the valueless. The terpenes do not participate in the flavor or odor of the oils. As before mentioned, oil of caraway was the first oil to be divided into its two components. Carvol being the only valuable component was marketed in 1876 under the name of "Patent Caraway Oil." In 1876, at the International Exhibition at Philadelphia, oils of clove and peppermint were shown free from terpenes. In 1877 bergamot, fennel, thyme and lavender oils followed. Also, lemon and orange oils, which are now concentrated in odor and flavor thirty times stronger than the ordinary essential oils.

Terpeneless oil of lemon must not be confused with "Citral;" the first is made by analysis of the true lemon oil, the latter by synthetical methods.

PATENTS AND TRADE-MARKS.

The following list of recent Patents and Trade-Marks is reported by W. G. HENDERSON, Solicitor of American and Foreign Patents and Trade-Marks, Norris Bldg,, Washington, D. C. A copy of any of the following will be furnished by him for 15 cents.

PATENTS.

763,463. Soap-saving device. Gennaro L. Cataldo, Brooklyn, N. Y.

TRADE-MARKS.

42,835. Soap. Frank O. Gustafson, Brockton, Mass. The representation of a pair of hands, in one of which, the right hand, is held a box containing a powder and bearing the words "Needless Pummy," said box being shown partially open and the powder being poured therefrom into the other or left hand, and below the representation of the hands are the words "Needless Pummy."

42,836. Soap. Puro Manufacturing Company, New York, N. Y. The word "Puro."

42,886. Washing fluids. Louis Bloomer, Newark, N. J. The words "Snow White."

42,922. Washing powder. William K. Bellis, Indianapolis, Ind. The words "Morning Glory" surmounting a sketch of a blossom representing a morning glory.

43,010. Soap. The North America Soap Co., Ltd., Victoria, Canada. The word "Nasco."

LABELS.

11,191. Title: "Gordon's Improved Borax Axle Soap." (For Axle-Soap.) Robert W. Gordon, McKeesport, Pa.

AROUND THE SOAP FACTORIES.

News-items sent us by our readers will find prompt attention in this column.

The Brantford Soap Works Co. has, to our mind, the prettiest private post card we have ever seen.

Vasanji Premji, M. A., B. Sc., is a chemist interested in soap factory work in Bombay, India.

F. Martin, of Columbus, Ohio, maker of "Power" soap, has provided a "companion piece" to his soap in the form of a patented "Power Wash Board." The two should prove a powerful combination.

Armour & Co. will at once proceed with the construction of a new building to take the place of their soap factory in the stock yards, which was recently destroyed by fire. The new structure will be fireproof, six stories high, 300x125 feet in ground dimensions, and will cost $200,000.

The Larkin Soap Manufacturing Co., of Buffalo, recently purchased property in Edgewater, N. J. No intimation has as yet been made that the company intend to build a factory upon the property purchased, but as the purchase price was a large one it was ostensibly for this purpose and with this idea that the company bought in the land.

The stretch is a large one and is of easy access to the ferries. The property along the river front in Edgewater is rapidly being bought up by large manufacturing concerns and while it is now being sold at a comparatively low price it will not be long before there is not an available piece of ground on the river front that can be purchased at any price.

Meantime this company has secured a permit to erect a two-story brick addition to their power-house at Seneca and Larkin Streets. Charles Berrick's Sons are the contractors. The addition will cost $50,000.

Incorporated: United States and Santo Domingo Company, New York, soap and perfumes; capital, $50,000. Directors—J. P. Julia, Brooklyn; Elisco E. Spaillat, Santiago; Isadore Levy, New York.

Seattle and Everett capitalists have purchased practically all the stock of the Mineral Soap Company, of Seattle, Wash., and it is understood that arrangements have been completed to increase the output of the factory, which is located near Latona. Manager George S. Bartels states that a number of improvements will be made to the plant, and he expects that the corporation will double its present output. He said:

"Heretofore the stock in the company has been held principally by Iowa and Minnesota people. A deal has

been put through by which this stock comes into the possession of resident moneyed men and capitalists of Everett, and we expect that the change will result in great improvements."

Home Adorning & Specialty Co., Camden, N. J. Objects, manufacture of paints, oils, soaps, etc.; capital, $10,000. Incorporators, D. Wesley Vannaman, Alb. H. Kennedy, Harman T. Saylor.

Hoffheimer Soap Company, Chicago; capital, $50,000; manufacturing soap. Incorporators, Augustus Binswanger, Elmer E. Jackson, Daniel F. Laughlin.

DES MOINES, Iowa, July 16.—Ralph Bolton has bought at sheriff's sale the assets of the Puck Manufacturing Company, engaged in the manufacture of soap, and which has been in the hands of a trustee for several months. Mr. Bolton represents a company organized to take over and operate the plant. It is the intention to considerably enlarge it and increase the output, and contracts have already been entered into with grocery jobbing concerns for taking a major portion of the output.

The plant is located at East Second Street and the Rock Island tracks, and was formerly owned by the Boltons, who sold it to the Puck company and took in part consideration a large issue of bonds secured by trust deed of the property. The consideration paid at sheriff's sale consisted largely of the bonds.

The plant has been operated continuously by the Puck company and by trustees since its sale, and in addition to the manufacture of soaps under the old Bolton processes, it has been turning out the Puck soaps. The new managers have arranged for the use of the Frank Mason "crystal white" formulas, and will manufacture this soap as well.

The new company will take immediate possession of the property under the terms of the trust deed and will commence at once the making of improvements necessary to carrying out its plans.

The new company was incorporated yesterday with a capitalization of $60,000, for the purpose of the manufacture of soap in Des Moines. The officers and first board of directors are Ralph Bolton, president; O. F. Dorrance, vice-president; J. O. Knudtson, secretary; J. A. McKinney, treasurer.

The company intends to begin the manufacture of soap as soon as the articles are filed with the secretary of state.

Fairchild & Shelton are reported to have invented and having built a new device for cutting soap. It is claimed that the machine will save much labor and expense.

SAN FRANCISCO, CAL., July 1, 1904.—A large tract of land at San Pablo, Constra Costa County, has been sold by B. Schapiro & Co. to capitalists, who have made arrangements for the establishment of an important industry at that point. The tract is situated close to the Santa Fe Railway depot at San Pablo, which is but a short distance from Richmond, the Santa Fe city.

The deal by which the land was secured for manufacturing purposes through Schapiro & Co was conducted here by Dew R. Oliver, the well-known mining man and capitalist of this city. Mr. Oliver has been acting for Eastern and Southern California capitalists, who propose to erect and maintain a large works for manufacturing paints, oils, soaps and refining oils. When the works are completed it is stated that there will be employment for at least 200 men in them. The fact that the works are to be established at San Pablo has already created considerable interest in the place, followed by a demand for building lots. The machinery is expected to arrive at San Pablo within a week or two and work on the buildings is to be started at once.

Nelson Morris & Co. are having plans drawn for a soap factory of six stories. The building will be 172 by 128 feet, and built of stone and brick, with the interior of mill construction. It will adjoin their plant at the Union Stock Yards in Chicago, Ill.

The Welch, Holme & Clark Co., of New York, are the oldest established house in the country dealing in the soap material line. Their connections for dealing in fats, alkali of various kinds and miscellaneous chemicals used in the soap factories are of the highest order.

Thomas Ross, soap manufacturer of Columbus, Ohio, died on July 9th, in the General Memorial Hospital in New York, where he had gone for relief from a cancer. Mr. Ross was engaged in the manufacture of soap in Columbus for several years. He was born in Ireland 52

The stockholders of the Globe Refining Company, Louisville, Ky., have decided to go into liquidation. The stockholders will seek to follow up the liquidation of the concern with a reorganization, and for that purpose foreign capital has been enlisted, and a new name probably will be adopted. The Globe Refining Company was organized three years ago with a capitalization of $290,000, held by a number of Louisville capitalists. It is charged that mismanagement is responsible for the misfortunes of the company, and the last plan for reorganization fell through.

The assets of the company are in all valued at about $175,000, and the liabilities will fall within that figure, it is said. The officers say that the concern is solvent, but that liquidation and reorganization is necessary to successful management. Among its assets are the refinery plant in Louisville, which is worth $120,000 on the

open market, according to the claims of the company, the original cost having been in excess of that figure. The company also owns 108 tank cars that cost $500 each. Other property is also held in the company's name. years ago. He came to Columbus about 40 years ago, and has been a resident there ever since. Mr. Ross leaves three brothers and two sisters.

J. F. Colbert, at one time agent for a Pittsburg soap factory, was fatally injured by an engine on the Erie road on July 12th.

The Union Soap Works, of Wilkesbarre, Pa., have started up their new three-story factory plant. The germ of this factory was a small frame building where Frank Bauer, manager of this new factory, started a little plant in 1890. Two years later Mr. Yeager, of Plymouth, became associated with him, and the firm was then known as Bauer & Yeager. The latter, however, was associated with the firm for only eighteen months. Mr. Bauer then interested a number of prominent Wilkesbarre men in the business who invested their money, with the result that the present site was secured. The corporation was formed in 1903. The erection of the building was commenced last September and was completed in April last.

It is 50 by 75 feet, a three-story brick, with a large basement. It is heated by steam and lighted by electricity and is handsomely fitted throughout.

There is a fine set of offices on the first floor. The basement is used for the storage of the soap, transferred from the kettles to the frames. On the first floor the kettles are located. On the second floor the materials to manufacture the soap are stored, as well as some of the machinery. On the third floor are the cutting machines, the dry room and the boxing department.

B. T. Babbitt, soap manufacturer of New York City, is preparing to erect an extensive plant at Granton, N. J. Plans for the projected plant, which are nearing completion, call for thirteen large buildings, which will comprise one of the most extensive factory systems of the kind in the country. The site has already been purchased and inquiries are being made for material needed in its construction and operation.

James Pyle & Son, of New York City, are also contemplating the erection of a very large plant for the manufacture of their product. It will be at Edgewater, N. J.

MILLBURY, CONN., July 1.—A conference has been held between the board of health and Thomas H. Sullivan representing the Home Soap Company, concerning the reported refusal of the board of health to renew the license of the company. Mr. Sullivan states that the conference disclosed the fact that no complaints have been received by the board concerning the soap and rendering works and the members of the board separately acknowledged that so far as they knew no nuisance existed. The residents in the vicinity of the works of the Home Soap Company state that no disagreeable odors have been noticed in the period that the works have been in operation. In fact, Mr. Sullivan states that even Harry Smith, of the Grafton Country Club, which is one of the most active of those opposing the soap works at Millbury Junction, is reported to have said that he has not noticed any odors and was not aware that the plant was in operation. In view of these facts it is thought a trifle strange by the soap company that the license has been turned down. One of the reasons given for the action of the board of health by Dr. A. G. Hurd, chairman, is that they are looking out for the future, having in mind the troubles of Auburn. The board fears that future developments of the plant may also develop smells, but as the license has to be renewed yearly and may be refused at any time if the board deems it wise to do so, it is thought that this is anticipating the future without very much grounds. It is said besides that it is a case of bad arithmetic on the part of the board, for if the plant now gives out no odors, that on the proposition twice nothing is nothing, a doubling or tripling of the plant will not increase the odors. Mr. Sullivan states that the people in the neighborhood of the soap plant have not complained in the least. Instead are outspoken in saying if they had known that the works would not prove as represented to them by the Country Club, that they would never have appeared at the hearing last fall as remonstrants.

The plant will be operated until after an official notification that the refusal to renew the license is final. The action of the board has not yet been communicated officially to the Home Soap Company, and this fact was pointed out to the board of health with a reminder that it was bad form to publish their official action in newspapers before informing the Home Soap Company, who was the most interested party.

C. J. Crew's soap factory, at Richmond, Va., was the scene of a small fire on July 7th. No harm done.

"The foundation for the new Packer soap factory is in, and the lumber for the structure is on the ground." —Norwich Bulletin, June 30, 1904.

Additions to Our Brand List.

Angelo Olive 54
Trix 54
Boro Myrr 54
Glyco Tar 54
Four Leaf Clover 54
La Fiesta 54
Koko-Oil 54
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Aroma de Clavel 54
Clavel 54
Power Soap — F. Martin, Columbus, Ohio.
Strawberry Juice Transparent Glycerine S. No. 202 — Frazer Soap Co., Chicago, Ill.
Veg-Oil 113

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Including also the Brands of Foreign Manufacture Registered as Trade-Marks in this Country.

NOTE: This list is compiled with the greatest possible care, but the publisher does not assume any responsibility other than to correct and to complete the list according to data obtained from official sources or furnished by the trade. Brands registered in the patent office as trade-marks or labels are given with the name of the party registering same. Brands or names marked * are those which were found to be used by more than one firm or the owner of which could not be ascertained. ☞ SEE THAT ALL YOUR BRANDS ARE ENTERED IN YOUR NAME.

3 Liberty Mfg. Co., Chicago.
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344 Home Soap Co., N. Y.
345 Colnmbia Ref'g. & M'f'g Co. Ltd., New Orleans.
346 Beaumont Soap Co., Mayfield, Ky.
347 Lockwood Soap Co., Kansas City, Mo.
348 Oklahoma Soap & Oil Co., Oklahoma City.
349 M. F. Windsor Soap Co, East Buffalo, N. Y.
350 Florida Cotton Oil Co., Jacksonville, Fla.
351 Brown Soap Co., Dayton, Ohio.
353 Southern Soap Co., Birmingham, Ala.
354 Zion City Soap Factory, Zion City, Ill.
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Don't waste time asking us for the names of parties advertising in this column without giving their address, as they will not be revealed.

POSITION WANTED.

Position Wanted: Capable, young soapmaker, German, experienced in the manufacture of household soap, specially toilet soaps, perfumes and toilet articles of every kind, desires situation. Best references and testimonials. Address: K. H., care of American Soap Journal, Milwaukee, Wis.

Position Wanted: By an up-to date soap maker, 25 years' experience in making of all kinds of laundry and toilet soaps; including all kinds of textile soaps, chips and soap powder, recovery of glycerine from waste soap lye with the best obtainable results. Best of references. Address: "SOAP," care of American Soap Journal, Milwaukee, Wis.

Situation Wanted: By an expert up-to-date soap maker, chemist and perfumer, 25 years' experience in making all kinds of laundry, toilet, shaving, textile and scouring soaps and soap powders; also experienced in the recovery of glycerine from spent lye and familiar with all the details of a soap manufacturing business. Address: "A. S. A." care of American Soap Journal, Milwaukee, Wis.

Situation Wanted: By thoroughly experienced practical soap maker, chemist and perfumer. Have made for years all kinds of soap and perfumes, as well as refined and bleached stock. Desiring to make a change. Address: "M. N." care of American Soap Journal, Milwaukee, Wis.

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THE

AMERICAN SOAP JOURNAL

AND

MANUFACTURING CHEMIST.

Entered at P. O. at Milwaukee, Wis., as Second-Class Matter, Oct. 2, 1900.—Published Monthly.

Vol. XV. Milwaukee, Wis., September 1, 1904. No. 1.

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Awaiting reply from you to-day concerning the above, or request for samples and pamphlet concerning Synthetics, we remain,

Yours very truly,

FRIES BROS.

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NEW ORLEANS..R. Vallon, 345 Carondelet St.
NEW YORK.....Welch, Holme & Clark Co., 381-383 West St.
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Branch House, ST. LOUIS, MO. Office, Room 210 Granite Building.

The American Soap Journal & Manufacturing Chemist.

A MONTHLY JOURNAL OF THE MANUFACTURING CHEMICAL INDUSTRIES.

DR. HENRY GATHMANN, Publisher. 2707 North Ave, Milwaukee. **MILWAUKEE, WIS., September 1, 1904.** VOL. XV. No. 1.

THE AMERICAN SOAP JOURNAL AND MANUFACTURING CHEMIST.

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OFFICE OF PUBLICATION:

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The AMERICAN SOAP JOURNAL AND MANUFACTURING CHEMIST is devoted to the interests of all manufacturing industries of a chemical character, and is an absolutely independent publication. It is the only newspaper of its kind in America and has also a large foreign circulation.

For Subscription and Advertising rates see above.

Communications on industrial subjects, news items, and any information suitable for printing in these columns, are solicited and will have due attention.

Readers in search of machinery, supplies etc., not advertised in these columns, are invited to write us and we shall endeavor to supply the information.

Address all communications to

DR. HENRY GATHMANN, Publisher,
2707 NORTH AVENUE,
MILWAUKEE, WIS., U. S. A.

Drug journals, grocery trade papers and other publications catering to retailers declare that the trading stamp nuisance is waning rapidly, the public having come to realize that the retailer is "not really giving them any presents, but charging for all they get."

The only presents granted freely, frankly, and without question in these days of strictest business economy seem to be the soap premiums.

Soap manufacturers are not making any money to speak of, but they did in times gone by, and they believe with Carnegie in doing all the good they can with their wealth. So they reward all cleanly people (those who buy their soap) with pictures, lamps, furniture and jewels, to beautify their homes and adorn their persons. The trading stamp may drop into an early and unmourned grave, but the soap premium will flourish all the better then.

President Gompers, of the American Federation of Labor, "has been asked" to undertake the formation of a national union of soapmakers (and glycerine and candle makers).

Oh my!

* * *

Glycerine and candle makers, in this country, are exceedingly few (except in connection with soap making). Hence this problem practically means the formation of a national union of soapmakers!

* * *

There are undoubtedly awful times ahead. Just consider the large proportion of soap manufacturers who are not only their own soap makers, but who are also the only soap manufacturers (or makers) in their city. These unfortunate beings, in case the Union is formed, are obliged to personally man their own *local* union entirely, that is to say, they will become president, vice-president, secretary, treasurer and walking delegate of the local union of soapmakers, all in their own person.

But that is a small matter, comparatively. It is in the event of a strike being ordered that things will become complicated. When the Union orders the soap "maker" to leave the soap "manufacturer," and the manufacturer in his capacity of walking delegate interviews himself, first as president of the Union, and then as an employer, and when as soapmaker he insists on shorter hours which, as a manufacturer he cannot con-

cede to himself, then indeed he will realize that he has come upon evil times.

* * *

Seriously speaking, we can—with some effort—picture to ourselves a Union of soap makers in New York, Philadelphia, Cincinnati and possibly in Chicago. These might rise to become local affairs of more or less consequence. But to go beyond that and dream of a "National" Union means to utterly misunderstand the conditions prevailing in the manufacture of soap (and glycerine and candles).

The following is an extract from the June report of the Department of Commerce and Labor, giving the average wages, in cents, per hour and the hours per week in leading industries of the United States in 1903 and 1890:

	——Wages——		——Hours——	
Soap.	1903.	1890.	1903.	1890.
Boilers	24.4	17.5	60.0	60.0
Cutters	17.5	16.3	60.0	58.1
Laborers	17.5	18.3	60.0	54.1
Mixers	19.6	18.6	60.0	55.4
Molders	17.7	16.7	60.0	60.0
Pressers	16.0	11.3	60.0	54.7

Last month a certain firm, aiming to supply soap factories with a certain material, previously quite unknown to us, asked us for a copy of the SOAP JOURNAL. This we supplied, as requested, gratis. Then the same firm wrote to every soap maker who was advertising for a position in this free sample copy, offering its goods, and (since at the time we could not know the contents of those letters) succeeded thereby in getting us to forward its advertisement to about half a dozen soap makers, at our own expense. Next this firm wrote us, asking if we would kindly spare them a little space in our paper in which they could advise soap manufacturers of their new material. We were on the point of agreeing to this also, not wishing to keep our readers from learning anything that was new, when we received notice from the post office that this firm had sent us half a dozen packages "too large for delivery by mail carrier." On enquiry we found that these were samples of their goods, addressed to several soap makers "in care of" the SOAP JOURNAL, and intended to be re-addressed and forwarded by us. The packages were leaking badly and unfit to be forwarded without repacking; besides, they would have filled a wash basket. Instead of paying 50 cents to an expressman for cartage, repacking the samples in our office, addressing them properly, and putting about $1.50 worth of our own postage stamps on them for forwarding them, we preferred to simply refuse accepting the whole mess. What became of it we neither know nor care.

All this is very commonplace and uninteresting, and we should not have mentioned it in this place, but for a peculiar little extra wrinkle that caught our attention, viz.: This firm with its unparalleled cheek, in addressing its envelopes, closes the same with an extra lable, two of which were returned to us since as curiosities by the parties addressed, and one of which reads: "We must through much tribulation enter into the Kingdom of God. Acts 14.:22." The other reads: "Thy God whom Thou servest continually, he will deliver thee. Dan. 16:6." The reading of the labels on the other letters was different, but similar in character; we cannot recall the exact wording. The firm seems to have as many unctuous quotations up its sleeve as it has tricks, and hands them out with equal liberality.

It is reported that one French manufacturer of soap machinery, and two or three essential oil firms of the same country, have exhibits at the St. Louis Fair. If so, they were still unpacked (or just being unpacked) at the time when our reports of last month were being written. At all events, they do not materially affect the facts as given.

Herewith we print a reduced facsimile of the wrapper covering the cakes of soap presented by the Russian empress to the soldiers, engaged in war in the far East, a sample of which was kindly sent us by the manufacturer, Dr. Shukoff, of St. Petersburg. The soap itself is an "Eschweger" soap, for which this firm has a wide reputation, and the cake is rather larger than those usual for toilet soaps. (The wrapper was printed with blue ink, which accounts for the rather imperfect reproduction in our photo-engraving.)



Two esteemed subscribers, in widely distant parts of this country, have written us to the effect that they are prepared to offer exceptional opportunities to a practical soapmaker with some means to invest in a flourishing soap business. Both offers look tempting, and if any of our readers should be looking for an opportunity of this kind, we shall gladly put them in the way of obtaining further information.

FROM OUR CORRESPONDENTS

ABOUT DIFFERENT SOAP MAKERS.

ROCHESTER, N. Y., AUGUST 7, 1904...

DEAR DR. GATHMANN:—As you appreciate curiosities, I enclose herewith a letter I received from a firm wanting, as you will notice, "a cold and half-boiled soap maker.."

Now, I have known a good many soap makers and so-called soap makers. I can understand also that an undertaker or a medical college might have use for a "cold" soap maker, but I cannot in the least understand to what possible use a "half-boiled" soap maker could be put.. It makes me shudder to think what might happen to a "cold" soap maker in a soap factory. The nearest I have ever come to seeing a "half-boiled" soap maker was when I got my big toe in a full boiled nigger; still, as my toe, though big, is not half of me, I cannot fill the bill. If you know of any one who answers the description, give him my address and I shall inform him who the man is that wants that subdivision of the "genus homo," a "half-boiled and cold" soap maker.

On second thought I wonder where the writer of that letter came from: perhaps he came from the moon. On earth all creative operations produce heat, therefore a "cold made" soap maker is an impossibility.

But joking aside, it seems to me that any firm desiring to be up-to-date "in the bizz" should look for a "soapmaker" simply, and not for a man who at the best is only part of one. It is more than I can understand that anyone should be called a soapmaker unless he be a master of his trade in every way. A national union for mutual protection of soapmakers from these wage-cutting "cold" and "half-boiled" soapmakers would be a good thing in the U. S., similar to what I am informed is in existence in Germany.

Yours, etc., H..D.

MACHINERY WANTED.

HABANA, CUBA, AUGUST 12, 1904.

The American Soap Journal:

DEAR SIRS: Whenever somebody puts an ad. in your paper during the next few months, wanting to sell a rendering tank for tallow, or some other good soap machinery, frames, etc., kindly let me know their address.

Yours truly,

MAX PAUL.

[To simplify matters, we print this letter, hoping it may serve a good turn all around. Ed. A. S. J.]

ELUSIVE OLIVE OIL.

———, AUG. 6, 1904.

DEAR DOCTOR: Some time ago I obtained some green olive oil; it was delivered to me in a stout wooden barrel that had been carefully coated inside with what appears to be paraffine. After about four days it seemed the oil was oozing out through the solid staves (I think of oak) of the barrel. There were no leaks in the barrel, but quite a pool of oil collected on the floor, in spite of the paraffine coating. I consulted everybody in this city who ever knew anything about handling oil in barrels, painters, tanners, wholesale drug men, hardware men, and others, and they all agreed that I must get an empty whisky barrel and try my luck with that. I did so, but after 30 hours the oil commenced to ooze through the solid oaken staves of that barrel also, precisely as it had done before. The importers of the oil say they do not wonder at my experience, as green olive oil was "the most troublesome stuff they ever handled," but they could suggest no remedy beyond that of transferring the oil to a metal cask. But metal casks are expensive, and as a last resort I thought I would write to the SOAP JOURNAL, as no one else could help me. Now, if you know of any way in which I can confine the green oil safely, economically and permanently, in an ordinary wooden barrel, I should be very glad to hear from you.

Yours very sincerely,

———— ————.

[We have heard that the addition of a small proportion of lye thickens such oil sufficiently to prevent leakage of this kind; for oil to be used in soap making this is probably the only solution of this difficulty. If there is any better way, we should be glad to learn it.—Ed. A. S. J.]

BEAUME AND SPECIFIC GRAVITY.

In the August issue of the AMERICAN SOAP JOURNAL I read with much interest the article credited to the "Druggists' Circular," entitled "Benzine, Naphtha and Gasoline."

That the difference between the three is rather vague and uncertain is well known to dealers, and I have found in the course of a somewhat extended experience that benzine and naphtha are supplied from the gasoline tank, according to the wants of the customers. The explanation of this seeming incongruity is fully given

in the last sentence of the article, to-wit, "that the manufacturers apply different names to the same product."

One statement, however, in the article I feel bound to criticise, that is, the rule given for converting degrees Beaume into Specific Gravity, which is to divide 144 by any given degree plus 134, meaning, of course, for liquids lighter than water. This I think is not correct. My rule for a lifetime is to add the degree to 130 and divide the sum into 140, and for liquids heavier than water subtract the degree from 145 and divide the difference into 145. This rule is borne out in commerce. Take for instance an example familiar to all soapmakers. Oil of Sassafras sold usually on a specific gravity basis of 1.070=9½ degrees Beaume by the above rule. Will the editor kindly pass upon the matter and tell us which rule is correct, so that no one will be misled.

SPECIFIC GRAVITY.

YLANG-YLANG FOR PORTO RICO.

Tropical Porto Rico is to be revolutionized. American influences there may not always have been for the best, but the process of adaptation is steadily progressing. When this is completed there will be a new future for Porto Rico. The prosperity of the island must always rest in its agriculture: but this must be brought up to date, and made to yield its quota of the world's goods that are in special demand.

Under the scientific directions of the Department of Agriculture it is proposed to make Porto Rico an island of specialties—specialties in tropical commercial fruits. Sugar, tobacco, and a few other staple products will not be abandoned; but the island's salvation appears to lie in other directions. It needs more variety of industries—more materials out of which to weave a solid, substantial prosperity.

The soil, climate, and other conditions are all there, and even the products, in some instances, but there have been lacking the brains and the ability to adapt nature to the demands of the day. For some time now government experts have been studying the botany of the island, and incidentally experimenting with some of the native and imported plants of commercial value. The opening of the new prosperity of Porto Rico will begin with the cultivation of these plants according to the most recent scientific methods. Many of them are indigenous to the island, but either through lack of proper culture, or ignorance of their commercial value, they have been of little real use to the natives. Others are to be imported from the Orient and transplanted to the island for cultivation. They are eminently adapted to the soil and climate of Porto Rico, and hence there is little doubt, in the minds of the scientists having the matter in charge, about their success.

One of these is a tree known as *Cedrela odorata*, but commonly spoken of in tropical countries where it grows as ylang-ylang, thrives wonderfully well in Porto Rico. It is known in that island as the West Indian cedar, and its wood is more compact and beautiful than the best Central American mahogany. From different parts of Porto Rico this tree has been foolishly cut down and wastefully used for cabinet work and house-building. The flowers of this tree are beautiful and fragrant. From them is extracted a commercial product almost equal to the famous attar of roses. This attar of ylang-ylang is what makes the trees most valuable. It sells as high as five dollars per pound. Ylang-ylang oil has been held almost as an exclusive monopoly by France and Germany; but a steady cultivation of the trees in Porto Rico should lead to a change. The oil is extracted by simple processes, and without the use of chemicals, and from seventy-five pounds of the flowers a pound of oil is usually produced. In Europe the oil of ylang-ylang is used as the basic essence of the best perfumes as much as the famous attar of roses.

GEORGE E. WALSH.

Modern German Soap Factories.

In nearly all English speaking countries there is a marked similarity in the kinds of soap made and in the machinery and processes employed for the purpose, as distinguished from the same in countries not using the English language. This fact undoubtedly is largely the result of the more active interchange of ideas among countries using the same language.

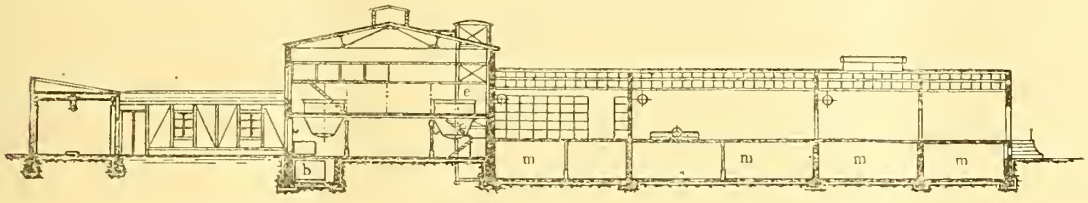
Among all the other countries Germany ranks first in the perfection to which soap making has attained, but—especially regarding laundry soaps—the German consumer has peculiar views of what soap is preferable; the soap stocks available in Germany and their relative cost are also somewhat peculiar, and lastly the manufacturing processes have been strongly influenced by the efforts of machinery manufacturers and of special investigators along the line of splitting fats into fatty acids and glycerine, with subsequent saponification by means of carbonated (instead of caustic) alkali.

Something like a revolution has come over the German soap factories and the more aggressive among them are making numerous changes in their equipments. It is interesting to see what, according to a German specialist in this branch (F. Schnelle, civil engineer), are to be considered the most modern plans of a soap factory. The two plans here presented were published by him about a month ago in the *Seifenfabrikant*, one plan being that of a factory chiefly for household soaps, in a locality permitting the liberal use of floor space; the other plan being designed for use

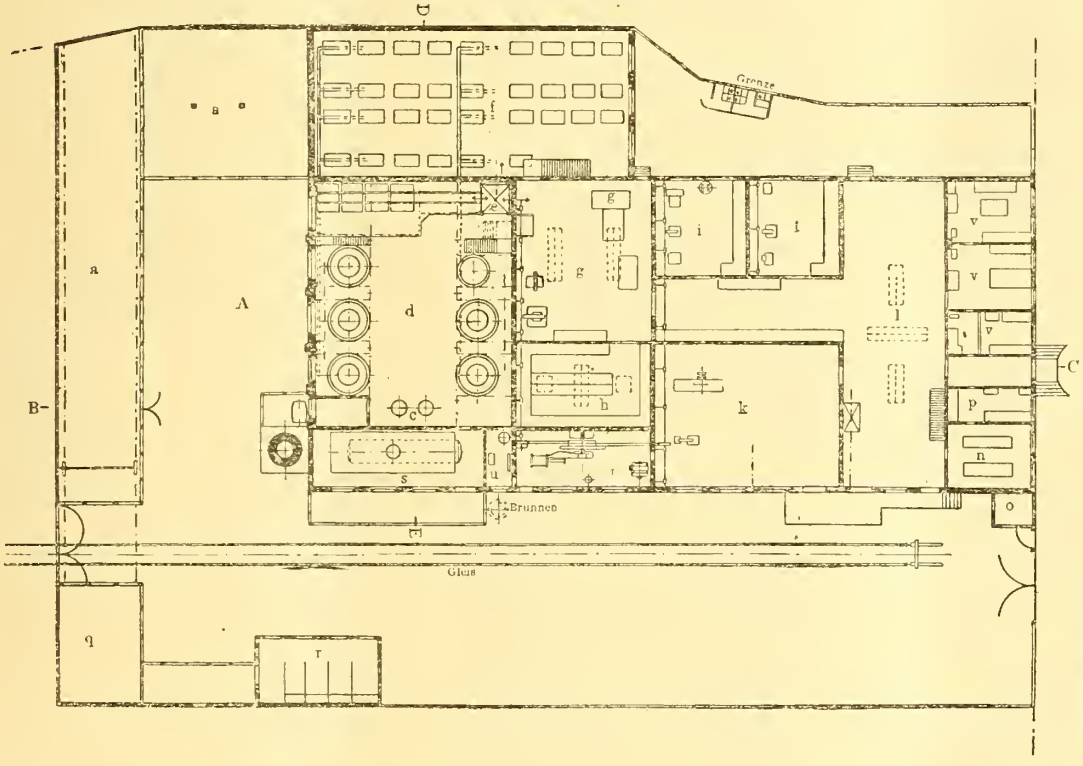
where the ground available is comparatively limited. Both are designed with a view to boiling soap by steam, which is fully recognized to be superior to boiling over a fire which, on the whole, is still the usual method in Germany.

The first plan contemplates effecting nearly all the manufacturing processes on one floor and provides ample storage room. Raw materials arrive on a side track leading to the factory; finished goods are shipped chiefly by teams; both receiving and shipping proceed in a common yard, with which connect all the parts of the factory concerned in this work: storage tanks, boiler room and coal shed, box factory and packing room. The railroad track is sunk into the ground like a street car track, so that trucks may cross them without difficulty. The soap boiling room and machinery requiring steam are placed next to the boiler room, with a view to making steam connections as short as possible, this being an important point in economy. In the engine room is centralized the arrangement for steam distribution, boiler feed, water purification, water pump and heater for exhaust steam that is to be used over for drying and heating purposes.

Power is transmitted directly from the engine to

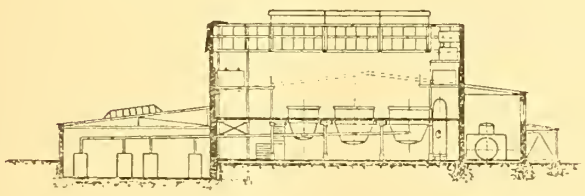


Grundriss.

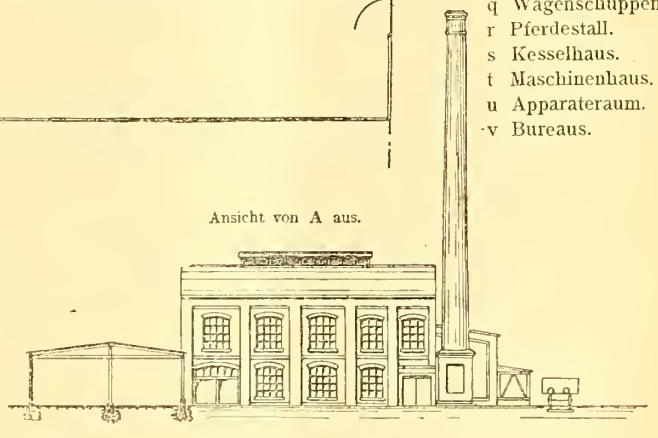


a Lager.
b Ölbehälter.
c Fettspaltung.
d Siederei.
e Aufzug.
f Formensaal.
g Riegelschneidmaschinen und Pressenraum.
h Trockenraum.
i Seifenpulver und Toiletteseifen.
k Tischlerei.
l Packraum und Versand.
m Keller f. Schmierseifen und Lager.
n Versammlungsraum.
o Portier.
p Laboratorium.
q Wagenschuppen.
r Pferdestall.
s Kesselhaus.
t Maschinenhaus.
u Apparateraum.
v Bureaus.

Schnitt D-E



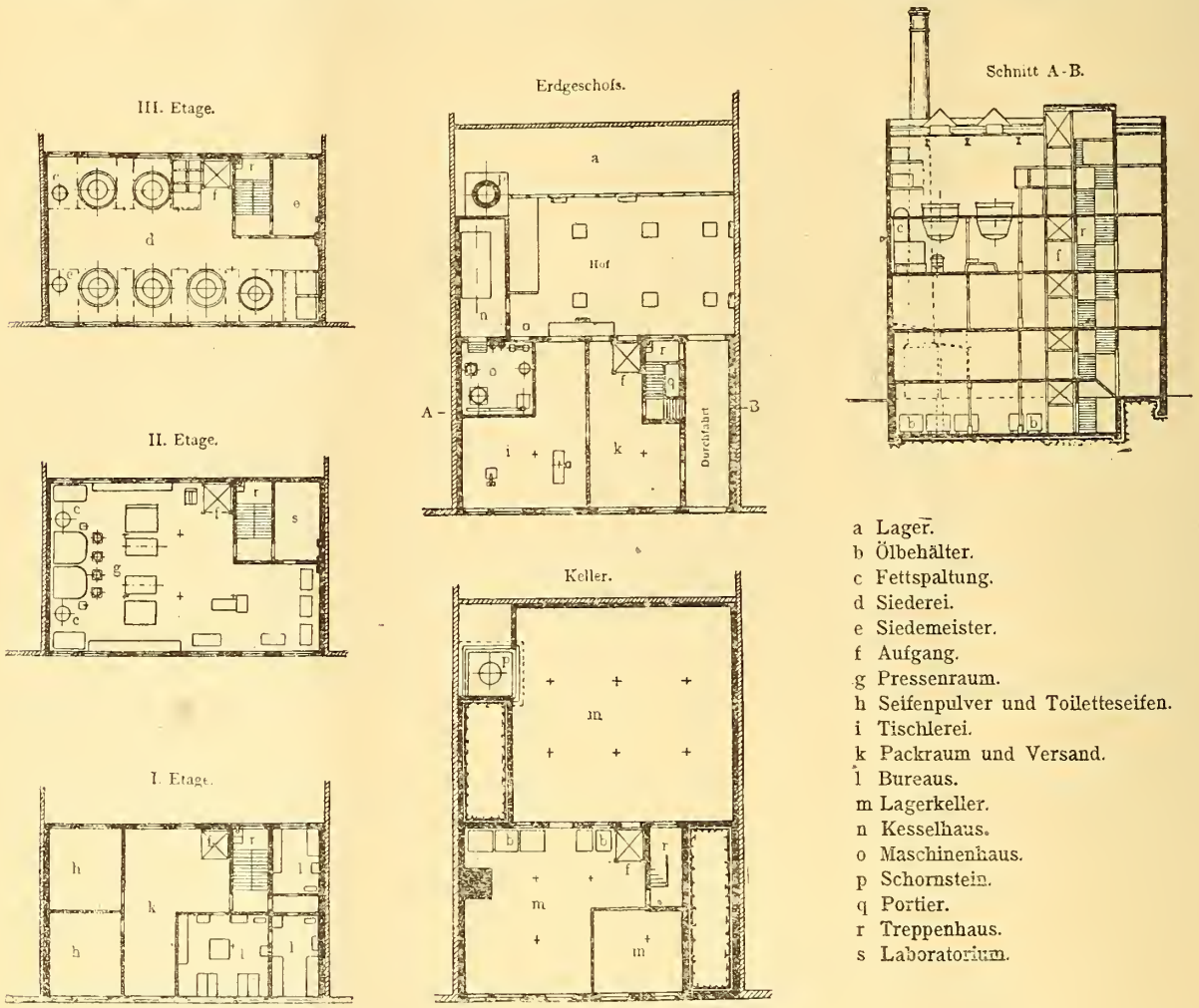
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most machines requiring the same; belting is required only for the crutchers and for the soap powder room. A dynamo in the engine room provides the factory with light.

In general, the several rooms follow each other in the order as the manufacturing processes go on. The stock room is provided with a crane running the length of the room and designed to carry barrels from or to the door; the barrels can be rolled to a shed placed outside of the factory, along the chimney, where the fat can be steamed out and flows by itself into tanks in the basement of the factory, whence it is pumped or blown up as required. The left wing of the kettle room, lying next to the boiler room, is reserved for splitting fats into fatty acids and glycerine. (The plan here shows a pressure tank, but several other processes for the same purpose are fighting for supremacy and may be used instead, as the "fermentative" process, the Twitchell process, the Krebitz process). Carbonated alkalis are lifted by an elevator to the upper level of the soap kettles and emptied into the latter. For caustic lyes a stage is constructed in the upper story of the building, so that the lye runs of its own accord into the kettles. Beneath the roof is a water cistern for use all through the factory.

The kettles in this plan are placed high enough to discharge the soap directly into the frames; for certain cases a soap pump may be preferable, and the kettles may then be placed on a level with the other machinery. Soft soap, so universally made in German soap factories, is run directly into barrels. Settled soaps are drawn off through a swinging pipe and discharged above the frames. The soap reaches the cutting room by means of an elevator. In place of slabbers and cutting tables there are now being offered by various manufacturers certain systems of forming the hot soap directly into pressed slabs or bars; these are now in use in certain factories and apparently have been perfected sufficiently to give satisfaction to their users.



Turning now to the second plan, we find it designed to economize in the size of real estate, on the well-

known plan of lifting the stocks and lyes to the top and letting them work their way down as the manufacturing processes go on. In this plan an electrical transmission of power is suggested as in many ways superior to transmission by belting.

The letters used in these plans designate the following:

Plan I—a, Storage; b, Oil Tanks; c, Splitting of Fats; d, Kettle Room; e, Elevator of Frames; g, Cutting and Pressing; h, Drying Room; i, Soap Powder and Toilet Soaps; k, Carpenter; l, Packing and Shipping; m, Cellar for Soft Soaps and Storage; o, Doorkeeper; p, Laboratory; q, Wagon Shed; r, Stable; s, Boiler house; t, Engine Room; u, Machinery Room; v, Offices.

Plan II—a, Storage; b, Oil Tanks; c, Splitting of Fats; d, Kettle Room; e, Soap Maker; f, Elevator; g, Pressing; h, Soap Powder and Toilet Soaps; i, Carpenter; k, Packing and Shipping; l, Offices; m, Storage Cellar; n, Boiler House; o, Machinery House; p, Chimney; q, Doorkeeper; r, Stairway; s, Laboratory.

Duplicating Perfumes.

There is no more difficult task presented the perfumer or soap maker, than to duplicate a given odor whose composition is unknown to him. Whether it is a question of perfuming a soap or of making a handkerchief extract, the determination of the composition of the odor is always very difficult, and often enough simply impossible. The following aims to show approximately the method by which the problem may be more or less perfectly solved.

Obviously we must suppose the experimenter to be familiar with the entire scale of odorous principles of the usually employed essential oils and the principal artificial perfuming substances; also that he be in possession of a well-trained sense of smell. Without these two aids he would be quite unable to engage in tracing the composition of any odor.

In the case of a pronounced odor, as heliotropin, violet, or other familiar flowers, the problem is not usually one of very great difficulty, since the foundation of all these odors is generally known and their completion is not then over-difficult. It is very different in respect to fancy odors.

The several odoriferous bodies, it is well known, are not all equally volatile and are carried off by the evaporating alcohol more or less readily and thus brought to the notice of our sense of smell. If we bring a glass plate moistened with the odor close to our nose, the air passing over the plate brings about an evaporation of the alcohol and with it the escape of the odorous bodies; this enables us to gain some idea of the components of the odors and may well be the first step in our examination. Small, perfectly clean glass plates do not allow any odorous material to hide within pores, as is possible when this test is made with filter paper instead, as is customary; besides the glass plates do not have any odors of their own, while filter paper is apt to have absorbed various smells from its surroundings.

To examine a handkerchief extract, a little sample is poured on the glass plate and at once brought near the nose. As evaporation progresses, a series of component substances are successively revealed and a note made of them—not only as to their kind, but also as to their intensity. If we believe that we have not identified each and all of the constituents of the odor, we next place the glass plate, when it has apparently become quite dry, on a vessel (of a size that the plate quite covers it) previously filled with hot water at 165 deg. F. By placing the nose as closely as possible to the glass plate, we may now be able to distinguish several odors, according to their degree of volatility.

At last there remains a slight dull spot on the glass which may be examined microscopically, and by the presence of tiny crystals, etc., may reveal further clues as to the ingredients. The presence of resins may also be readily demonstrated in this manner. The deposit on the plate may finally be also examined with the several known indicators.

That such methods may show the way to a composition that will closely resemble the original is evident, but certainly the examiner can never claim to have ascertained thereby the exact formula of this or that perfume, but many odors and ingredients combine in such a manner and so thoroughly, that nothing can separate them again. A considerable difficulty arises through the use of one or more of the many artificial odorous substances, as through slight differences in their manufacture (and even different raw materials from which they were derived) they may cause quite different effects in combination with essential oils and alcohol.

But, on the whole, the method described has proven very useful and, after some practice with it, fine results may be obtained thereby. In addition, it is well to remember that nearly all violet odors nowadays contain, besides extract of the pomade, ionon and orris oil; the examination therefore tends chiefly to ascertain whether or not ylang-ylang, rose, or jasmine have also been used, and to what extent such fixatives as musk and resins have found employment. Finally some unusual ingredient (vanillin, cumarin, etc.) is to be searched for. Thus flower odors are less difficult to examine than fancy odors, of which nothing is known in advance to the investigator except their odor as a whole.

Furthermore, the strength of the alcohol present must be ascertained, for of course evaporation proceeds more rapidly as the alcohol is more concentrated; from a financial point of view this is important as well.

After all these data have been put together, the next step is to use them in practically making a product of our own; the result may then be improved or changed as circumstances may require. The imitation may advantageously be tested in the manner described, side by side with a sample of the original, whereupon minor defects will be revealed.

In the case of soap perfumes the difficulties are still further increased. Usually we endeavor to draw conclusions from the mere odor of the cake, but for a more exact determination the soap is cut into shavings and dissolved in water. The very dilute soap solution is then thoroughly shaken with alcohol, the latter distilled off, and the distillate examined as before described. The results are less sharply defined, however, than in the case of liquid perfumes. We must also consider the age of the soap, as most odors develop their full power only some time after the soap was made, and old odors often defy all attempts at their examination. Still, the usefulness of this method is well attested by the fact that, for example, it gave almost uniform results in the case of a certain Jockey Club extract, a sample of 12 years and one of 2 years of age of the same extract having been tested; these two specimens of the same article seemed to be two entirely different makes before examination.—Th. Gallo, in Der Seifenfabrikant.

Ricin Soap: A Valuable Pharmaceutical Adjunct.

BY FREDERICK T. GORDON.

It has long been known that castor oil possessed qualities peculiar to itself and to no other oil, and the effect of the sulphonated product of this oil "sulphoricinoleic acid" or "polysolve" — in making many substances soluble in or miscible with water is also well known. It has also been noted that castor oil when mixed with many other oils renders them more soluble in certain solvents than when alone, as in alcohol, for example, equal parts of castor and cottonseed oils being fairly soluble in 95 per cent. alcohol. But, as far as I have been able to learn from inquiry in text-books and drug journals, one most remarkable property of castor oil seems to have been overlooked—the really wonderful effect its soda or potash soap has in making substances of widely different nature soluble in or miscible with water. The soda soap of castor oil, which I have called "ricin soap," is easily made, is cheap and has many qualities of usefulness to recommend it to pharmacists. Before taking up its manufacture, however, and the particular uses I wish to call attention to in this article, I believe that it will be of interest to note a few of the experiments I have made showing its action on certain bodies in making them soluble in water.

FOR EMULSIFYING OILS, ETC.

A 25 per cent. solution of ricin soap was made by dissolving 25 grams of the dry soap in 95 per cent. alcohol to make 100 c.c.; this was used as the most convenient way of bringing the soap and the substances experimented on together, although it is easily done by simply heating this soap and the liquid together on the water-bath. Dry ricin soap dissolves freely in most oils, some essential oils, such as those of cloves, cinnamon, turpentine and eucalyptus, and copaiba, glycerin, etc., by heating the two together at a gentle heat. The following oils, etc., give these results:

Oil of cloves—5 c.c. of oil and 5 c.c. of soap solution (equal to 1.25 grams of soap), mixed, gave a clear solution with 10 c.c. of water; with 20 to 50 an emulsion that can be diluted at will to 500 c.c. and which remained permanent for over two weeks, when it was thrown out.

Oils of cinnamon, peppermint, or eucalyptus—5 c.c. of oil with 5 c.c. of soap solution remained clear with successive portions of 5 c.c. of water up to four times its volume; more water than this makes an emulsion that is quite permanent.

Copaiba—10 c.c. with 10 c.c. of soap solution gave a splendid emulsion with 50 c.c. of water; this emulsion flavored with wintergreen oil and a little syrup added gave excellent results in several gonorrhea cases I had under observation. It is permanent in the sense that the layers that separate after long standing are easily brought to the original condition by a few shakes of the bottle, (and this holds good for all these emulsions,) is not at all unpleasant to the taste, and is borne better by patients than the usual gum emulsion of copaiba. It is suggested to pharmacists as being worthy of trial.

Oil of turpentine—Equal parts of oil of turpentine and alcoholic soap solution give fairly good emulsions, separating on standing but restored by shaking. This seems a very good way to administer turpentine, the action of the castor oil being also had, as the taste is well masked by syrup and oil of cinnamon.

Castor oil—With castor oil itself, perfect emulsions can be made with a small proportion of ricin soap, simply by adding water and shaking.

All these emulsions are made by mixing the alcoholic solution of soap with the oil and adding the desired amount of water and shaking. Five grams of the dry soap dissolved, with heat, in 50 grams of copaiba forms a clear, transparent jelly, emulsifying with water in all

proportions. Turpentine also dissolves the soap to a jelly in this proportion.

FOR DISSOLVING PHENOLS, ETC.

But while the properties just mentioned are interesting, it is when we come to the phenols and like bodies that the remarkable properties of ricin soap stand out clearest. Let me give a few of the combinations that I have tried, lack of space forbidding more than a brief note on each. One gram of resorcin, 1 gram of soap, and alcohol to make 5 c.c. gives a combination that is soluble in water in any proportion, from 5 c.c. of water to 500 c.c., without separation. One gram of naphtol, 1 gram of soap, and alcohol to make 5 c.c. makes a clear solution with water in proportions from 5 to 40 c.c. of water; above the latter the mixture turns milky and the naphtol separates out on further dilution. Menthol, thymol, eucalyptol, etc., act in the same way as naphthol. All these solutions are perfectly clear: the substance is actually dissolved in the water by aid of the soap, not just mixed with it. By its use a solution of these bodies in water can be made, and the fact that by means of ricin soap such solutions can be made seems of much value, as they can be used internally or externally as antiseptics in their most useful proportions. With most fixed oils, by the way, ricin soap gives combinations that give pretty good emulsions. Many more substances experimented on might be mentioned, but these here noted will be sufficient to show the effects of this soap. Ichthyol might also be mentioned; ricin soap makes it miscible with water in the form of an emulsion.

FOR MAKING GLYCERIN SUPPOSITORIES.

Very handsome and durable glycerin suppositories can be made from ricin soap. Dissolve 10 parts of the dry soap in 90 of glycerin by the aid of gentle heat, cool and pour into well-greased moulds and set aside in a cool place to solidify. Such suppositories seem, from two cases in which they were used, to act better than the U. S. P. suppositories made from stearic acid soap.

FOR PREPARING CARBOLIC ACID MIXTURES.

But these interesting properties of the soap are not intended to be the subject of this article. What I want to call attention to is the effect ricin soap has on carbolic acid and the application of this practically. With the aid of this soap the pharmacist can prepare watery solutions of carbolic acid of any strength from a 50 per cent. solution to one only 1 per cent.

A few notes first. Mixtures of 1 part of carbolic acid to 1 part of soap up to 9 parts of acid to 1 of soap are soluble in water in all proportions. These mixtures are made by dissolving the soap in the melted acid on a water-bath—the soap dissolving easily to a clear solution; syrupy if strong in soap, fluid if strong in acid. The acid here referred to is the white medicinal variety; mixtures of the soap and the crude "90 per cent. red" acid of the trade acting somewhat differently, on account of the impurities in this acid. One part of soap to 2 parts of acid makes a turbid mixture with 1 part of water; with 2 parts up to 4 parts it clears up, the latter being a syrupy liquid that can be diluted with water in any proportion. With the crude "black" acid, containing cresylic acid, tar oils and coal-tar creosote, ricin soap gives a combination that forms permanent emulsions with water. One part of soap dissolved in 1 part of black acid mixes with water up to 3 parts clear; over this amount of water gives an emulsion that can be diluted at will. A 10 per cent. emulsion thus made a month ago is still almost as when made. A 2 per cent. emulsion of the crude black acid closely resembles a proprietary creolin diluted with an equal amount of water. Indeed, the behavior of this combination makes me believe that creolin and such preparations may be made with the use of ricin soap. The milky emulsions made from the crude acid are not at all oily, have a clean odor, and do not leave a residue when used on the hands.

Now these solutions of either pure, red or black carbolic acid are valuable not only on account of the acid therein; they are also alkaline and "soapy," and this soapy element gives them a far higher position in the scale of germ-destroyers. The soap will dissolve and remove grease and dirt, leaving a clear field for the carbolic acid to get at the germs; moreover, it will also dissolve and clear away the coagulations caused by the acid. A noteworthy observation is that the mixing of ricin soap with carbolic acid seems to deprive it of its caustic properties. I poured a 50 per cent. mixture of soap and acid on my bare arm, let it remain there ten minutes, and when it was wiped off there was scarcely any reddening of the skin and no burning was felt. In handling these mixtures I of course got more or less on my hands and was astonished to find nothing more than a slight "puckering" of the skin as a result.

Solutions of carbolic acid, pure and crude, were tested as to their actual germicidal value on several varieties of bacteria—anthrax, diphtheria, typhoid and streptococcus—and in every case were found to far exceed the normal power of carbolic acid, almost equaling mercuric chloride. The germs were experimented on in cultures, on dirty cloths inoculated with cultures, on pieces of board, etc., and the results show that for disinfecting and sterilizing clothing, walls and floors, the ricin soap carbolic acid solutions give very positive results. A great convenience of use is that 50 per cent. mixtures of soap and acid can be made for stock solutions and these may be diluted with water to any desired strength.

Having given these data as a foundation for my assertions as to the value of such mixtures, let me come down to practical details. Before giving these, I would say that it occurred to me that possibly the glycerin formed in the saponification of the oil might be the cause of the solubility of carbolic acid in water. So, therefore, I tried many different combinations of glycerin and carbolic acid—to find that the results of these mixtures were very different from those given with the soap combinations.

HOW TO MAKE THE SOAP.

The formula I found best for making the soda soap of castor oil, ricin soap, was the following: Dissolve 75 grams of caustic soda (the kind that comes in cans) in 100 c.c. of water, bring to a boil and pour in, with constant stirring, 100 grams of castor oil. The mixture will froth considerably at first, so a capacious vessel must be used, a saucepan, agate, for instance, holding four times this amount. Keep the mixture at a boil until it becomes perfectly clear and transparent; the oil is then completely saponified. If the heat is now withdrawn a soft, jelly-like soap will result; it is therefore better to continue the heat until a few drops of the soap taken out on a glass rod harden on cooling; this will make a soap the consistency of castile soap, the easiest to work with. Pour the melted soap into well-greased moulds and set aside in a cool place to "set." When perfectly hard, cut up into pieces of suitable size. If the soap is cut in thin slices and dried in the sun it becomes hard and horn-like, transparent, and can then be easily powdered.

The soap made as here outlined is hard, white, lathers freely with water, has a slight odor of castor oil and keeps perfectly, becoming more translucent on age and drying. The potash soap made similarly is much softer, but can be got in hard cakes by evaporation while melted. In making this soap, it must be stirred frequently to keep it from frothing and boiling over, unless the heat is regulated at just a boil. These proportions are of course based on the molecular formulas of the alkali and the oil, round numbers being taken for molecular weights. Seventy-five grams of soda, an excess, is best taken. The excess of alkali is to allow for any deficiency in strength in the commercial caustic soda; it is also an advantage to have the soap alkaline instead of neutral, as this enhances its power of removing dirt and grease. A perfectly neutral soap can be made that is an excellent one for toilet use, softening and whitening the skin. This can be made transparent by dissolving it in alcohol, heating to drive off excess of alcohol and cooling. Perfume may be added at will.

PRACTICAL USES FOR COMBINATIONS.

For practical purposes I would suggest the following combinations:

For surgeons' use, dissolve 1 part of dry ricin soap in 4 parts of pure carbolic acid: this makes an 80 per cent. mixture. Label, "Carbolic Mixture. Use 1 dram to 1 ounce of water to make a 10 per cent. solution of carbolic acid; use 1 dram to 10 ounces of water to make a 1 per cent. solution of carbolic acid." Of course the quantities can be varied to make any desired amount of any percentage solution with water.

For sale for household use, dissolve 1 part of soap in 2 or 3 parts of the red "90 per cent." carbolic acid sold to the trade. Put up in half-pint or pint bottles which can be sold at 25 and 50 cents (or more, or less). Label, "Carbolic Acid Disinfectant — Poison. Directions: Pour two tablespoonfuls of this disinfectant into two quarts of water, stir until thoroughly mixed and use for scrubbing floors, washing clothes, pouring down sinks, etc."

As a cheaper product, the crude black carbolic acid may be used. Dissolve 1 part of soap in 2 parts of this acid and label as for the red acid.

Of course these proportions and amounts may be varied at will, bearing the fact in mind that even as small a proportion as 1 part of soap to 9 of carbolic acid will make the latter soluble in water, if the white or red, and miscible as an emulsion, if the black.

In closing this paper, I may say that the discovery of ricin soap and its useful properties was partly accidental. I had started out to make a resin soap for making a carbolic acid disinfectant and used a mixture of castor oil and resin that I had made up last year for "sticky fly paper," and finding this to work so well when made into soap with alkali, tried the resin soap alone. This was found to be of little value; a little castor oil was added to it, and it worked better. Then the thought came to try castor oil by itself—with the results I have here given. I can recommend ricin soap to pharmacists in search of a cheap, effective, safe disinfectant solution, in combinations as herein suggested, from actual results obtained in practice. A 2 per cent. ricin soap solution of carbolic acid is now used altogether at the navy yard where I am on duty; we find that it is invaluable for washing wounds of parts soiled with grease and dirt, such as we get every day—the wounds are invariably made clean and aseptic by a simple rubbing of the parts with cotton saturated with the solution. Dirt and grease disappear as if by magic, bleeding is checked and pain is lessened, while cleanliness absolute is proved by the excellent primary healings we get. We also use ricin soap solutions of carbolic acid for sterilizing instruments (these can be boiled with it without the slightest ill effect on their

edge or polish), and for scrubbing the deck and walls of our sick-bay once in a while, disinfecting dirty towels, dressings, soiled garments, etc. In fact, it has altogether displaced all other disinfectant solutions. With this in mind, I therefore present this paper to the pharmacists of the country, hoping that they will be able to get some hint of value from it, for actual use or for a money-making preparation. — Druggists' Circular.

Prolongation of the German Potash Syndicate.

After negotiations extending over several months it has been possible to arrive at an understanding for an extension of the German Potash Syndicate. At one time the difficulties in the way of a successful termination of the various conferences on the subject seemed insuperable. So much so that in the course of the few hours during which the members were free from their syndicate obligations one of them — the Hohenfels Works—is reported to have sold largely for delivery next year, because it was considered highly probable that the combination would not be prolonged. The syndicate has, however, been renewed on a fresh basis for a period of five years instead of ten years, as was originally contemplated, and the agreement has been signed by 28 works, including the Prussian and Anhalt State mining authorities. A noteworthy feature in connection with the syndicate has been the attitude manifested by the older producers towards the newer works in order to prevent the wreck of the combination. The old-established mines for a long time refused to give way to the large claims put forward by the youthful producers in the matter of allotted production, but at the last moment they agreed to make concessions rather than witness a period of cut-throat competition which would have arisen in the event of failure to renew the syndicate. The conciliatory attitude of the elders has taken the form of consenting to a gradual increase in the appointment of the juveniles down to the time of expiration of the new agreement at the end of 1909, whereas their own allotted output will be correspondingly reduced in the same period. It had been intended to form the syndicate, which has been constituted as a limited company, with a share capital of £250,000 to be subscribed by the members in proportion to their participation in the sales of potash salts. The object in view was to provide a war fund for the purpose of meeting any competition which might originate outside of syndicate circles, and also to enable the syndicate to purchase any new potash properties which were likely to be developed. This scheme has, however, not been proceeded with, as the conclusion was finally arrived at that the syndicate is sufficiently strong to deal with any possible rivalry without the provision of a war chest. It is therefore probable that the old "nursing" system will be continued—namely, that rival borings will be made as occasion may arise in the vicinity of any explorations which may be undertaken by new promoters in the hope of anticipating the latter in discoveries, and in thus preventing them from obtaining mining rights. This system, although not always successful, has proved of benefit to the syndicate in many cases. The syndicate now announces that under the new agreement potash products will be divided into five instead of four groups, as under the old arrangement. The first group comprises chloride products containing more than 42 per cent. of potash as well as the so-called 38 per cent. potash manure, calcined. The second is composed of sulphate products exceeding 21.5 per cent. of potash; the third relates to products ranging from 42 to 30 per cent. potash, exclusive of the 38 per cent. potash manure included in the first group, and the sulphate products in the third group. The fourth group embodies non-carnalite raw salts of from 19.9 per cent. to 12.4 per cent. potash, and the fifth represents carnalite salts, including rieserite.

Duty on Harness Soap.

Gen. Sharretts, of the Board of General Appraisers, in a recent decision sustains the protest of Wm. S. Hansell & Sons, of Philadelphia, against the assessment of 25 per cent. duty on certain harness soap The merchandise is described in the invoice as "crown harness soap" and "Propert's saddle soap." The first is a dark, semi-transparent substance of the consistency of soft soap, while the other material is the color of beeswax and possesses a degree of hardness equivalent to that of tallow. The chemist who made an analysis reported that both materials were true soaps.

General Sharretts sustains the claim of the importers that the soap is dutiable at 20 per cent. ad valorem, under paragraph 72. The Collector's action in assessing duty of 25 per cent. ad valorem under paragraph 7 for blacking of all kinds, is reversed.

From the Philippines.

The superintendent of the Government Laboratories in the Philippine Islands, in his report to the War Department, says among other things:

"Copra and Cocoanuts—The copra and cocoanut industry is practically second to none in the islands, and the laboratory is now engaged in analyzing large numbers of nuts of all ages and the dried copra from many localities. The various samples are being worked over into copra and the percentage of oil, water and cake

determined. So far the work has shown great variation in nuts from different localities and even from the same tree. The quantitative analyses will be graphically displayed at the St. Louis Exposition. It is hoped that the analyses will shed some light on the question of the benefit or harm of sea air and water on the yield and value of cocoanut trees, as well as the variations in oil-producing capacities between different regions.

"Essential Oils—While the islands produce a considerable number of essential oils which have a sale in the markets of the world, it is unquestionably true that many flowers as yet unstudied would increase the range of this class of products and activity in this line will be undertaken as soon as apparatus for the proper carrying on of the work is available. The vegetable products of the archipelago in relation to the preparation of alkaloids and other substances of value in medicine have not been studied from a systematic point of view in the laboratory, but indications which we have had in the past show us that in the future a large field exists for this class of research.

"Resins, Gums and Wood Oils—In a large number of places throughout the islands from Luzon to Mindanao and Paragua quantities of resins (breas) have been taken for many years and the supply is far from being exhausted. Most of this is the gum copal of commerce, though some is reported under the name of dammar gum. The laboratory is now analyzing this and other resins, some of which contain a large percentage of essential oils. To this latter class belongs the 'breas' or Pili gum, which is collected from forest trees of the genus Canarium. A gum similar to the gum chicle of Yucatan has been found in several islands and is now being worked up with the view of ascertaining its commercial value. It probably comes from a species of Ficus.

"Panao (wood) oil is being exported to some extent for use as varnish oil. The experiments now under way show it to be composed of an essential oil and a large amount of a soft resin. A sample of manapo oil has been received from Baler, province of Principe, which is peculiar in that it contains an apparently unknown essential oil in combination with a white crystalline resin.

"Through the exposition board samples of several hitherto unreported resins and two gums have been collected and their analysis is now under way. The gums are water soluble and resemble gum senegal somewhat, while the resins are of various colors and all apparently contain aromatic oils. The 'breas' have received the greatest attention and, so far, two distinct varieties of white 'brea' have come to the laboratory. They differ markedly in that one from Canarium luzoniense contains 21.18 per cent. of pure pinene, while the other, the usual brea of commerce, contains 9.3 per cent. of phellandrene.

Whale Oil Soap Free in Canada.

Whale oil soap, now dutiable, is under the new Canadian tariff to be transferred to the free list.

A New Patent Hygienic Soap Granulator.

is being introduced by Baxendale & Co., of Miller Street, Manchester. It is an apparatus for supplying pure, clean soap for toilet purposes, and is intended as an attachment to the washstand and lavatory. It is made of metal, and is very simple in its action. The bar of soap is in the shape of a short cylinder bored longitudinally through the center. This is placed on a spindle inside the body of the granulator, which is then locked. The turning of a handle operates four fine saws which cut crosswise on the soap, and release as much as is required in fine granulation, just sufficient soap being delivered in a powdery form to serve for one washing. The apparatus is particularly suited for use in hotels and public lavatories, and institutions, schools, etc. In many cases a saving of 75 per cent. is effected, as each user gets only just so much as he requires and no more, and as the tablet of soap itself never comes into contact with the water, there is no waste through this cause. Its hygienic advantages are very obvious. No person has to handle soap which has been used by other people, hence the possibility of infection in this way is entirely removed, and entire cleanliness insured. The tablet of soap being locked up in the granulator, pilfering is absolutely prevented. Two sizes of the granulator are being put upon the market, a small one (bracket pattern) for private use, and a larger (pillar pattern) for public lavatories, etc. It has been adopted for use in the House of Commons, and by most of the railway companies. The large passenger steamships are also taking it up. It can be retailed at a reasonable price, and there is a good margin of profit to the trade.

A Vegetable Butter.

Our delicious table butter made supposedly from the cream obtained from cow's or goat's milk, besides having a dangerous competitor in oleomargarine, is menaced anew by a substitute no less formidable in character; this is an exotic product—the butter, in fact, extracted from the meat of the cocoanut. This must not be confounded with cacao butter, which, though sounding very similar to cocoa butter, is nevertheless

prepared from an entirely different nut and used for quite other purposes.

The cocoanut tree, that most providential growth of the tropics, produces, without cultivation, a nut with which we are all familiar. Contained within its hair-covered and ovoid shell is a most delicious milk, a cooling draft which quenches the thirst of the wayworn and jaded traveler and refreshes the tired laborer. Science has made the important discovery, too, that its meat, of which there is always a generous supply, when dried and pressed furnishes a whitish substance which solidifies at 20 degrees C., but above this temperature runs into a yellow and translucid oil. The annual importations of cocoa-oils coming from India and Africa are considerable. The better grades are drawn from Cochin China, the island of Ceylon, from Australia, and from Karri-Kall, well down near the end of the Kara peninsula. These various commercial grades are obtained by pressing—first cold, then warm—the pulp extracted from the nut which has been previously divested of its shell.

This nut produces 60 per cent of oil, and the cocoanuts collected upon a hectare of land (a fraction over 2 acres) planted to these trees will yield an annual production of 800 kilogrammes of oil which readily oxidizes or becomes rancid, recalling, by its taste, the fruit from which it is derived. Till now this oil has had no other industrial use than furnishing the fats for soap or oil for the lubrication of machinery, the better sorts being employed in the preparation of textiles.

Under the name of "copra" the meat of this cocoanut comes to our shores and is here employed in the manufacture of this industrial oil, the residuum, in the form of a press cake, being fed to cattle to fatten them. According to a French publication, it is in France that this cocoanut oil is subjected to special treatment, from which it emerges to become the formidable rival above indicated of our cherished butter made from cow's milk.

A German chemist of prominence, Dr. Heuner, proposes to buy up all the cocoanut oils and to transform them into a succulent, savory, inodorous product which is soluble in ether and possesses no acid reaction; to this product he announces his intention of giving the name "vegetable butter."

Of all the vegetable oils, that extracted from the cocoanut is the one of which the composition approaches more nearly to the butter made from milk.

Like true butter, it contains 7 per cent of soluble acids, which are not found in such considerable proportion in any other fat. These are butyric acid, capric or decylic acid, which give to our table butter its pleasant aroma and a very pronounced taste of the hazelnut.

Moreover, cocoa butter contains from 25 to 30 times less water than true butter. It will keep 15 or 20 days without showing any acid reaction, and from this fact seems to offer a real superiority over animal butter for use in the preparations of dry pastry, biscuits, and such like.

The process advocated by Dr. Heuner for the treatment of cocoanut oils and from them thereby to obtain a butter in every way adapted for food is that which Dr. Schlink has already put into practice. It consists simply in relieving these oils of their fatty, volatile, and odorous acids, as well as of their other aromatic principles, by means of alcohol and bone-black. After this treatment the product obtained has the appearance of a whitish mass of the consistency of ordinary butter, possessing a sweet savor; it melts at 25 deg. C. and shows the following component parts:

Fatty matter	99.632 per cent
Mineral matter	0.011 per cent
Water	0.357 per cent

The price of cocoa butter, we are informed, is about 1 franc 60 centimes a kilogramme, something over two pounds, and is much lower than that of butter made from cream; moreover, since it contains little or no water, less of it would be required by weight, and, because of its slowness of oxidizing, confectioners and bakers would find it to their advantage to use it for cake, pies, and other things in their lines, because they would not get stale and unmarketable so quickly.

From the standpoint of hygiene it may be well to remember that butter made from milk occupies the first rank among substances which are most favorable to the culture of microbes and of the worst ferments, while cocoa butter, on the contrary, seems to be an antiseptic medium very improperly qualified for the dissemination and propagation of bacteria. In this respect, comparative experiments made upon both of these substances have given results which do not admit of doubt as to which is the better antiseptic.

Finally, experiments upon the artificial digestion of this form of butter, carried out in the Central Hospital of Vienna, have given equally gratifying results and been confirmed later by other experiments in the different hospitals of Switzerland.

While it has not yet been satisfactorily demonstrated that cocoanut oil can furnish a butter capable of supplanting the delicious products of the dairies of Isigny and Brittany, it is, however, significant that the various boards of health have not raised their veto against the human consumption of this new product, which, let us hope, will not lend itself, like oleomargarine, to the fraudulent adulterations which defy the keen understanding of the chemist.—Translated from Science, Arts, Nature.

Discoveries of Chevreul Relating to Fats.

(Condensed from Discourse of M. Berthelot, Permanent Secretary of the Academie des Sciences.)

At the time when Chevreul undertook the study of fats organic chemistry was not in existence. The investigation of Lavoisier, Berthelot and their contemporaries had established the nature of the chemical elements of plants and animals, carbon, hydrogen, nitrogen and oxygen. Half a century before, that is, previously to the time of Lavoisier, attention had been directed to the isolation of the chemical compounds of living organisms, as they pre-exist in their natural state, without undergoing changes resulting from the action of heat, water, acids, alkalies and other chemical agents. These compounds were universally admitted as produced under the influence of life. In the state in which they are manifested they were designated under the name "immediate principles." Rouelle, the younger, had contributed in fixing this notion. But the art of defining well was but partially understood, and rules were lacking for indicating their individuality by constant and characteristic properties. Even the law of definite proportions was not stated and accepted in science, until after a long discussion between Berthollet, who contested it, and Proust, who sustained it. This discussion immediately preceded the researches of Chevreul.

At this time fixed oils, as opposed to volatile oils, were regarded as forming a single species, similar to living species, but capable, like these, of presenting varieties or secondary forms, of more or less importance. Thus was explained the indefinite diversity of natural fatty substances, vegetable and animal. Oils were connected with soaps which had been utilized from ancient times in the arts and in domestic economy, resulting at first from the action of vegetable ashes on fatty bodies. In the middle ages the substitution of their aqueous solution was undertaken; then, alkalies obtained by the reaction of lime on this lye. Two theories of saponification were proposed at the end of the eighteenth century. According to one, which is exhibited in Marquer's Dictionary (1778), soap results from the combination of an oil with an alkali. All oils were considered as containing an acid more or less enveloped, which was disengaged, either by rancidity, by the action of fire, or by combination with other bodies.

Stahl, at the commencement of the eighteenth century, regarded the acids, which are drawn from oils by distillation, as the cause of saponification. Berthollet, eighty years later, also compared oils to acids, and regarded saponification as due to the affinity of the oil itself for alkalies.

Fourcroy had given prominence to another theory, more conformable in appearance to the notions of the new pneumatic chemistry, in which oxygen plays so large a part. According to this author, a standard authority about the year 1880, oil exposed to the air without being heated gradually thickens, becomes concrete, white, opaque and similar to tallow. These phenomena were, according to him, attributable to the oxygen, which they slowly absorb, thus forming at length vegetable waxes. In the same way, when the union of the oils and alkalies produces soap, the fixed oil absorbs a less or greater portion of oxygen. On account of this oxidation, more prompt, and facilitated by the presence of alkalies, soaps become solid. That is why the concrete oil is afterwards separated by the action of acids.

Such was the state of the knowledge, or rather of the prejudices of chemists at the moment when Chevreul was led, by accident it is said, to commence the study of fats. He pursued this work for ten years, from 1813 to 1823, with admirable method and persistency, enabling him to shed light on the history of a considerable class of organic compounds, and to lay down the rules applicable to the investigation of their immediate principles and of their constitution.

At first, he examined a substance obtained by diluting the soap of pork fat with a large quantity of water. A part was dissolved, and another part precipitated in small scales, a sort of nacreous matter. This matter, attacked by muriatic acid, was separated into potassium chloride, and another body, fusible at about 56 degrees C., which he proposed, at first, to denominate "margarine," from the Greek word signifying a pearl. The pearly matter constituted its combination with potash.

The existence of these compounds raised a problem, not less general and unexpected, that of the organic acids insoluble in water. Now, the existence of an acid of this kind appeared so extraordinary, so contrary to all the facts then known, that Chevreul hesitated and did not venture to make assertions. It was only later, after having prepared and studied the salts of definite composition, which this body forms with earthly alkalies and metallic oxides, that Chevreul decided to change the name from margarine to margaric acid. This name ought to have remained in science; but in consequence of that mania, too frequent in the natural sciences, for removing the marks of predecessors, the name margaric acid has been replaced with that of palmitic acid.

Chevreul did not stop at this first step. The more thorough study of the soap of pork fat soon taught him that this soap is in reality formed of two different soaps, produced by the union of potash with two differ-

ent acids; one, solid, the margarine, which he afterwards designated under the name margaric acid; another, which he first called fluid fat, and, later, oleic acid. These two ternary acids, slightly oxygenized, compared with super-oxygenized organic acids, such as oxalic, tartaric, citric and acetic acids, exert the same action, he said, as the hydracids, as compared with oxacids in the inorganic kingdom.

Then he attacked the problem of saponification itself, and ascertained, conformably with an old observation of Scheele, that along with the fatty acids there appears in the decomposition of fats by means of alkalies, a soft, sugary principle, quite soluble in water, to which he gave the name glycerine. By exact measurements he ascertained that definite ratios exist between the weights of fat saponified, of fatty acids, and of the glycerine, formed. These ratios are such that the sum of the weight of the products, glycerine and fatty acids, exceed by about five hundredths that of the fat which has furnished them, an increase of weight sufficient to refute the old opinion, which considered soaps as a simple combination of the fat with the alkali.

Pursuing his experiments with inflexible method, Chevreul ascertained that saponification occurs in vacuum in the complete absence of oxygen; this overthrew the theory of Fourcroy. Then the elementary analysis of the fatty acids and of the glycerine established the fact that the essential phenomenon of saponification is to be referred to a simple fixation of water on the products of decomposition.

Fundamental progress had been achieved. This was not all. Along with the glycerine, the pork fat had furnished two different fatty acids, margaric acid and oleic acid. It might be asked whether both were derived from the same product, or whether the fat itself was not a mixture of two immediate principles capable of furnishing, by their decomposition, one margaric acid only, the other, oleic acid only, both associated separately in the glycerine. Chevreul endeavored to solve the question by isolating each of these principles by the action of the solvents alone; in this he did not succeed. However, he observed that one resembled in composition a fatty principle, solid and neutral, capable of furnishing margaric acid only and glycerine; he assumed its existence as probable and called it margarine, in distinction from a fluid principle, supposed to be capable of furnishing oleic acid only, which he called oleine.

The original margarine of Chevreul thus became margaric acid, while the name margarine was transferred by him to the hypothetical fatty body, which would be capable of furnishing by saponification only margaric acid and glycerine. This new conception penetrated further into the constitution of natural fats; Chevreul adopted it. In reality it was too absolute; the theory of fats established later by the synthetic method has shown that there exist both certain fatty bodies formed by the union of the glycerine with a single fatty acid, and certain others, formed by its union with two and even with three fatty acids simultaneously. In a word, oleine and margarine exist in conformity with Chevreul's system; and there are several of them which he did not suspect. But there are also oleo margarines, and even several of these.

However it may be, the penetration of Chevreul and his persistent patience had solved a series of analytical problems, and co-ordinated a collection of new and essential conceptions in the study of organic compounds.

After having thus studied pork fat, and the products of its saponification minutely, Chevreul sought to generalize the results which he had attained. He examined successfully animal fats, the fat of man, of woman, of the sheep, the ox, the goose, the jaguar; then, vegetable oils; and found in all these bodies a similar constitution; with this exception, that the principal solid fatty acid of tallow is not identical with that of pork or of vegetable oils. Indeed, after suitable purification, the acid of tallow has a fusing point of about 70 degrees C., that is, higher than margaric acid, and it is richer in carbon. Chevreul gave to it at first the name margarous acid, because it was less oxygenized than margaric acid, a name for which he soon after substituted that of stearic acid, which it has retained. He regarded it as a derivative of a distinct fat, stearine, resolvable by saponification into glycerine and stearic acid. He afterwards applied his principles of analysis to butter and porpoise oils, and discovered among the products of their saponification, along with the fixed fatty acids, margaric, stearic and oleic acids, certain volatile fatty acids, to which he gave the names butyric, capric, caproic and phocenic acids, the last named recognized since as identical with the acid of valerian. He assumed that these acids were formed by decomposition, by means of certain neutral principles, whose existence he presumed from analogy, butyrine, caprine, phocenine, etc.

Still prosecuting his studies with extreme constancy and an invariable method, he undertook the examination of these solid bodies, confounded by Fourcroy under the name adipocire; principally three, the spermaceti of the whale, a crystalline substance extracted from gall stones and a fatty matter which appeared as one of the ultimate products of the change of dead bodies.

Interesting discoveries still followed. On saponifying spermaceti, he extracted on one hand a solid and fixed acid, which he called cetic acid and which was soon identified with the margaric acid of animal fats,

and on the other hand, a new body, ethal, which he compared vaguely with compounds formed of oxygen and percarburetted hydrogen (our ethylene). It was reserved for Dumas and Peligot to ascertain their true character twenty years later.

Chevreul extracted from gall stones a fine crystalline matter, cholesterine, of which he did not surmise the functional analogy with alcohol and ethyl, an analogy established later by my own researches. The fat of the cadaver, on the contrary, did not furnish him with any new compound. He recognized that it was a complex combination of fatty acids, pre-existing in the human body, with various bases found in bodies or in the ground, such as potash and lime, and even ammonia, produced by the decomposition of nitrated principles.

All these questions, accessory in some way to the general problem of saponification, were thus rendered clearer, and he caused the disappearance of that vague and confused notion, until then dominant in science, which divided the species called fatty bodies into varieties, such as oils, butters, fats, tallows, according to their consistency and their fusibility. He substituted a definition more exact which regarded the different substances as resulting from the mixture in indefinite proportions of certain immediate principles having fixed properties, and each subject to a constant composition of elements. He thus explained the endless variety of this class of natural bodies.

As to the exact theory of saponification, Chevreul always declared that he remained undecided between two opinions; according to one, it is an operation determining a change of equilibrium of the elements under the influence of alkalies, a change similar to that of pyrogenated operations; as, for example, the change of acetate of soda into acetone and carbonate of soda; while, according to the other opinion, the glycerine and the fatty acids would pre-exist after the manner of alcohol and acetic acid in acetic ether, which Chevreul rendered precise, by saying that the glycerine and the fatty acids would on this hypothesis be the true immediate principles of fats. Chemistry was not then sufficiently advanced to solve the problem. The methods of synthesis were necessary, which were discovered forty years later.

Grand scientific conceptions are not always accepted at first, and ordinarily are subject to a contradiction which may be useful. This did not fail to happen in the present case. At the moment of the discovery of the fatty bodies, a contemporary scientist, Braconnot, professor of natural history at Nancy, and of real merit, although quite inferior to Chevreul, was traveling the same path, having pursued a parallel course of studies, and he claimed priority for conceptions which were quite different, and contrasting in their incompleteness with those of Chevreul.

It will be sufficient to say that Braconnot regarded fats as formed of a substance whose properties varied within certain limits, and whose varieties represented matters designated under the names of tallows, axunge, butter, marrow, fat and oil. Basing his views on their consistency, he did not regard fats as constituting one homogeneous substance, but a mixture of two compounds only, tallow and oil; matters that can be separated by imbibition with paper, by the aid of which he sought to determine their relative proportions, and he thus defined the theory of their saponification: "Hydrogen and oxygen are in a certain state of equilibrium; they are separated and combined in a different order, giving rise to adipocire, and to oil soluble in alcohol."

This unexpected competition was not welcomed by Chevreul, but the facts which he had discovered were too numerous, too exact, too well analyzed and demonstrated, to allow of long discussion. On the 15th of January, 1821, Berthollet and Thenard presented to the Academy of Sciences a report indorsing fully the opinions of Chevreul, which they declared to be among the most important acquisitions of chemistry. In 1823 Chevreul collected the results of his investigations in a work which formed an epoch in the history of science: *"Recherches sur les corps gras d'origine animale."* Industry has since drawn from it a multitude of applications, including soap making, the manufacture of stearic candles, the employment of oleic acid, and the preparation of wool for weaving. In 1852 came an attestation in the form of a prie of 12,000 francs by the Societe d'Encouragement, founded by the Marquis d'Argentucil. The action of the soeiety was prompted by a report of Dumas, expressed with his ordinary distinctiveness and elegance. No sanction was therefore lacking for these investigations, and I was myself fortunate, two years afterwards, to be able to add the proof of chemical synthesis, an unexpected evolution from these discoveries.

How the Mills Can Make More Money.

BY W. B. ALBRIGHT, IN NATIONAL PROVISIONER.

For a great many years the cottonseed oil mills have been contented to manufacture their cottonseed oil as crude. In this condition it is sold generally in tank cars to the large buyers who are either simply refiners of cotton oil or refiners of cotton oil and manufacturers of compound lard and soaps. The number of buyers of this class are consequently few, and when the crude mill manager wishes to turn elsewhere to get a better price for his product, he is forced to look in vain for buyers.

Small consumers of cotton oil do not wish to buy crude oil, and are only interested in the refined products, such as yellow or white cottonseed oil, either in its ordinary condition of summer yellow or summer white, or in some special instances in its more highly refined condition, such as cold pressed yellow or white, or as a deodorized white oil, ready for use in salad oil mixing, or for lard compound purposes. It would be a very wise move on the part of crude oil mills to equip themselves so that they might make these products themselves, and to reach out to the large consumers and thereby obtain the highest cash value possible for their cottonseed oil.

The crude oil mill manager may object to this policy, on the ground that he has no means of getting after the small consuming trade without putting on a corps of salesmen. In answer to this, however, I will say that I do not recommend getting after the small retail trade. There are a great many packers and butchers and large baker supply houses who would be very glad to handle refined cottonseed oils in carload lots, and this is the class of trade that the crude oil mill manager could easily reach.

This is a suggestion of a general policy, and I fully realize that it could not be aeceptable to all; no general policy is ever possible to be followed by every one of the mills. I will therefore make suggestions of several methods of improving the cash value of crude cottonseed oil.

All crude oil should be filtered through an iron filter with suitable cotton duck cloth. This is easily accomplished, notwithstanding that a great many people profess to have had difficulty in trying to accomplish this point. All that is necessary is to use ordinary care and intelligence. Some of the main points which should be watched are these:

The filter cloths should always be dry when put into the press. If they are at all wet, too great a pressure will develop.

The oils should be warm, not cold. Any temperature between 110 and 150 will do.

The press, after being charged, should be blown out by means of suitable air connections, so that when opening the press there would be practically nothing left in it except meal.

The reasons why filtering of crude oil would be profitable are several, but most all the mills that are using filter presses have found that they can get a premium for filtered oil over prime crude. I have known of one instance where a mill got 3 cents per gallon more for filtered oil. This, however, was an exaggerated instance, and the original crude was very sloppy and full of meal, causing a great loss to the refiner. However, even at no cash value advantage to the mill in filtered oil, all oil should be filtered because it would tend to raise the standard of crude oil throughout the country, and every step in this direction is certain to raise the cash value of the product as a whole.

I am very well aware that many short-sighted mill managers do not accept arguments of this kind, and this kind of managers will say they see no advantage in filtering out meal from their oil when they can sell it at the price of 4 or 5 cents per pound as oil, which if sold as meal would net them but 1 cent per pound. Of course, there are no arguments that will apply to managers of this class, but it goes without saying that honest dealings and quality will obtain their just reward in the long run.

In case the mill should at any time wish to store crude oil, it is very essential that the same should be filtered oil, otherwise fermentation sets in, owing to the moisture and the meal, and the oil when offered for sale later on would be of inferior quality to what it should be if it had first been filtered.

In addition to the above, the mills would find that filtered oil would eliminate almost entirely all complaints from the buyer in reference to settlings, or excessive loss in refining, as it is the meal in crude oil which adds sometimes enormously to the cost of refining. If it could be made a specification of prime crude oil that the same should have to be filtered in order to pass as prime, it would be the best solution possible for all annoying claims of deliveries not being equal to sample.

It is quite natural and possible that when a mill offers oil for sale on sample that the sample is drawn from the tank after the oil had settled, and in this way the settlings would never be represented in the sample, but when delivery of many tank cars has occurred, the settlings will be bound to be riled up in the tank and to go forward with the delivery, and with the very best of intentions on the part of the mill manager many deliveries of this kind have ended in severe reclamations by the buyer and disagreements of a very annoying character have been produced in this way. Filters would almost entirely do away with the troubles which the mill man now has in connection with unsatisfactory deliveries of crude oil.

Refining cottonseed oil, by means of caustic soda, into prime summer yellow, is a thing that should be more generally adopted by the crude oil mills. While filters accomplish good results, filtration cannot in any sense be considered of equal importance to refining of the crude to a prime summer yellow. This is a feature of the oil question which ought to be very generally adopted by all mills of over 40 tons capacity, and where there are a number of mills of less capacity than this, they should join together and refine oils in one

refinery. There are many reasons why crude oil should be refined by the mill.

The first reason is that it can be refined at the mill at a less per cent. loss than anywhere else, and connected with this fact is also the fact that a better quality can be made by refining at the mill. Some people may say that it is not practical to refine crude oil at the mill because of the annoyance that would arise from the accumulation of soap stock, and their objection is that they would be forced to sell soap stock to the large refiners or the large manufacturers of soaps.

I would recommend, in connection with the refining of crude oil, that wherever this is done the cottonseed foots should be at once reduced (as is easily done) to what is known as a settled cottonseed soap, and in this condition it can be shipped to many markets and a ready sale built up by applying for customers to the soap trade generally throughout the United States. This product is readily sold in large lots for export as well, in which case it would have to be drawn off into barrels, or some equally convenient package for handling.

When the crude mills get their output of oil refined to what is known as prime summer yellow, they would then have 100 possible buyers for their product, where today they have hardly ten. The same argument that was mentioned in reference to storage of crude oil applies as well to yellow, except that yellow cottonseed oil can be carried for several years, if necessary, without any deterioration in quality, whereas filtered crude oil ought not to be carried longer than six months in storage. Therefore, in case the mill was not satisfied with the prices ruling for yellow, they could with absolute confidence store their yellow oil and abide their time for a better market, and their oil would not deteriorate in value, as far as quality is concerned, even should they hold it there for over a year. Owing to the fact that crude oil is refined more economically at the mill and that the resulting yellow is better in quality than could be made by any refiner 500 or 1,000 miles away, it should be obvious that the mill would have the call on the sale of their oil on account of quality.

One more reason why the refining of crude oil to yellow should be more generally done by the crude mill, and that is that the mill is then within one step of the manufacture of compound lard.

The use of cotton oil for edible purposes is a growth of the past twenty-five years, and as the writer was intimately connected with the first introduction of cotton oil for this purpose, it is always a source of wonderment to him that the manufacturers of this best of all cooking fats should be content to allow people a thousand miles away from the proper point of manufacture to monopolize the entire distribution of their cotton oil as compound lard.

Compound lard was originally manufactured in fear and trembling of state and national laws, and was placed on the market at a large cash value under its famous competitor, pure lard, and even the people that first used cotton oil as a substitute for a cooking fat did not really believe that cotton oil was a good substitute for lard. This impression was largely due to the inability in those early days to present manufactured products of cotton oil to the family trade in their present state of perfect manufacture. For this reason, whenever bad seasons made cotton oil strong in flavor, the refiner was unable to entirely remove the offensive flavors, and hence, when the cotton oil was used in the frying pan it would make the kitchen smell very loud. However, even at the very start of this industry cotton oil products were eagerly bought by the public on account of their cheapness, and in spite of fears of quality the early manufacturers soon began to realize that there were great possibilities in the manufacture of cotton oil products for edible purposes.

This being determined, it was quite natural that the necessary developments to improve the quality should follow, and now it has happened that with first one improvement and then another, cotton oil can be put into the kitchen of almost any home in the United States or Europe without fear of its being thrown out on account of its not being an excellent substitute for its high-priced competitor, pure lard.

German Chemical Industry.

(From United States Consul Harris, Mannheim, Germany.)

The recent annual meeting of the Association of German Chemists held at Mannheim led to the publication of interesting statistical information as to the relative importance of chemical manufacture in Germany and its development in this particular locality.

It is stated that in 1897 the total value of the more important manufactured products of Germany was about $2,120,000,000. At the top of the list stood the products of the iron and mining industry, with a value of nearly $840,000,000. Next came textile manufactures, whose value in round numbers was $650,000,000. This was followed by chemical manufactures with a total value of about $226,000,000.

Including with chemical products proper those of the rubber, gutta-percha, celluloid, paper, and wood pulp factories, the total output in 1897 is stated to have been approximately $256,000,000. In 1903 the total production of the German chemical factories,

using the term in its narrower sense, was estimated at $321,000,000.

This industry has shown a marked tendency in Germany to concentrate in certain localities without special reference to the sources of raw material. The most important centers are the Barmen-Elberfeld region, Frankfort-on-the-Main and its environs, and the Mannheim-Ludwigshafen district, which includes the two towns named, separated only by the Rhine.

In the variety of its products and the magnitude of some of its undertakings, the last-named district leads all th eothers. In it are located at present 73 factories for the manufacture of chemicals. Of these 37 are to be reckoned as important, the remainder being small. Eleven of the 37 are located at Ludwigshafen and 26 are at Mannheim. The 73 factories employ a total of 15,325 workmen; the total population in the two cities dependent upon this branch of manufacturing is not far from 55,000.

As to character of products, the factories group themselves somewhat as follows:

1. Factories for the manufacture of inorganic products, acids, salts, fertilizers, etc. (13 factories).

2. Factories for the manufacture of coal-tar products, oils, fats, varnishes, etc. (13 factories). Among these is included the Badische Anilin and Soda Fabrik, the largest of its kind in the world, employing now 7,800 workmen, besides about 1,000 chemists and office employes.

3. Rubber, celluloid, and wood pulp factories. This group includes the largest wood-pulp factory and the largest celluloid factory of Germany, the two factories employing somewhat more than 3,000 workmen.

The value of the present yearly output of the several factories of the two cities is estimated at $32,000,000.

PATENTS AND TRADE-MARKS.

The following list of recent Patents and Trade-Marks is reported by W. G. HENDERSON, Solicitor of American and Foreign Patents and Trade-Marks, Norris Bldg,, Washington, D. C. A copy of any of the following will be furnished by him for 15 cents.

PATENTS.

766,254. Soap Tablet. Albert E. Hughes, Darien, Conn.

766,624. Receptacle and distributer for liquid soap. Thompson P. Jarvis, assignor of one-half to A. C. Lewis, San Francisco, Cal.

LABELS.

11,299. Title: "Clearine Washing and Cleaning Compound" (for Washing and Cleaning Compound), Jennie Wortman, St. Louis, Mo.

11,300. Title: "The Great Labor Saver" (for Washing Compound). Beck, Gilbert & Co., Richmond, Va.

TRADE-MARKS.

43,044. Dog and Toilet Soap. John P. Cartwright, Augusta, Ga. The representation of a pointer dog on point.

43,066. Washing Fluid. James E. Fisher, Burnt House, W. Va. A portrait of the registrant.

43,113. Toilet and Laundry Soaps and Soap Powders. Lever Brothers Co., Portland, Me., and Cambridge, Mass. The word-symbol "Mars."

43,114. Toilet and Laundry Soaps and Soap Powders. Lever Brothers Co., Portland, Me., and Cambridge, Mass. The word-symbol "Dosol."

AROUND THE SOAP FACTORIES.

News-items sent us by our readers will find prompt attention in this column

Incorporated: Ideal Soap & Chemical Co., Brooklyn, N. J. Incorporators and directors for the first year: S. Mayer, J. Mayer, B. Bruckfeld, Brooklyn.

The Hastings, Neb., Soap Co. is a new concern, having just equipped a factory for making laundry and toilet soaps.

Early last month the Buckeye Soap Co. of Dayton, Ohio, sent off a shipment of ten carloads of soap chips.

George L. Stevens, president of the Warren Soap Mfg. Co., of Boston, Mass., died suddenly on August 3 from apoplexy. He was seen sitting in a condition of paralysis in the lobby of a hotel where he had gone for lunch, and died within a few minutes. The deceased was only about 55 years old.

Complaint has been made to the board of health on account of an alleged nuisance said to be due to the soap factory at Grand Rapids, Mich. Last year this factory was made the subject of an investigation by the health committee of the council, which reported that a hood had been placed over the kettle to prevent the odors escaping.

Incorporated: Durham-Guyon Co., Chicago; capital, $10,000; manufacturing soap; incorporators, Bertrand Walker, H. D. Howe, R. J. Cary.

The fire which destroyed the Texas Refining Co.'s soap plant at Greenville, Texas, on July 21, was more extensive than at first reported, as the engine house and the compound lard plant were also destroyed. The loss is estimated at $20,000.

PORTLAND, OREG., AUG. 8.—The Preston Manufacturing Company will erect a factory at Rainier for the

manufacture of soap. The soap will be a mineral soap of the nature of hand sapolio, but an article that promises to be much more adapted to general use. Ground has been broken, and the erection of the factory has commenced. Mr. Preston and Mr. Thomas are promoting the project. A number of Rainier capitalists have taken a large part of the stock, and the investment will no doubt prove a profitable one.

The North American Soap Co., Ltd., of Victoria, B. C., is a comparatively new firm and makes a specialty of a liquid soap for ordinary household purposes. The firm buys a green, soft soap in Milwaukee, and by its own process adds a disinfectant and other ingredients and then puts up the liquid soap in paraffine covered pasteboard cans with tin top and bottom. The product is marketed under the name "Nasco" and is said to have met with pronounced success.

Sparks from a passing engine set fire to the weather boarding of the Smith Soap Works at Springfield, Ohio, last month. A small blaze resulting was quickly overcome by the fire department before much damage was done.

The first story of the Packer Soap Factory is built and the second is begun.—Mystic News of the Norwich, Conn., Courier.

The Mystic Valley Water Co. is laying a new six-inch water main leading to the Packer Tar Soap Factory. This new building is progressing rapidly, the second floor timbers are in place and the window frames of the second story are being put in. — New London (Conn.) Daily News.

Incorporatd: The American Soap Powder Co., at Indianapolis, Ind. Capital, $75,000. Incorporators: Russell B. Harrison, Martin B. Chance, Foster C. Shirley, John A. Ross and Olive I. Stanley.

The Kentucky Refining Co. has purchased the two oil plants of Lever Bros., Ltd., at Vicksburg, Miss., and Marshall, Tex. The Vicksburg plant includes also a soap factory.

Incorporated: The Hoenel & Van Hoeter Soap & Soda Company, Portland; $10,000; F. H. Hoenel, Frank Van Hoeter, E. E. Merges.

The business of handling citrus fruit by-produets, started a few months at Riverside, Cal., in a small way by the Gray-Lyon Company, promises to become an industry of some importance to the Valley. During the past two months the company has been manufacturing calcium citrate at the rate of 700 pounds a day, and the season's output will be 15,000 pounds. Orange and lemon juices for laboratory use were also manufactured, as well as small quantities of citric acid. The business is conducted in the orange winery building on Pachappa Avenue and a very complete plant for the manufacture of essential oils, citric acid, candied lemon and orange peel and similar products is being installed. The company next season will handle ten tons of citrus fruit a day in its business. The output will be largely sold to manufacturing chemists.

Des Moines, Aug. 18.—Local soap manufacturers are indulging in a war on prices to the jobbing trade. Manufacturers themselves do not seem to know what the fight is about, but say that soon after the recent reorganization of the Puck Company, the row commenced and that the jobbing price is now 20 cents a box lower than when inaugurated. In jobbing circles the impression prevails that the fight has been started to introduce soaps of new makes and establish a trade demand.

Jersey City, Aug. 18—Piling and capping for the new plant of the B. T. Babbitt soap works of 64 to 84 Washington Street, New York City, on its eighty-seven acre tract of meadow land at Granton, in the township of North Bergen, has been commenced, the work being done by Geo. H. Rhodes and Herbert E. Manvel of Elizabeth. The work is to insure the foundations of thirteen buildings, to be known as the printing, box shop, glycerine, rosin, soda, melting, storage and boiler buildings. It is expected that the piling will be finished by Oct. 1.

Incorporated: East River Co., Brooklyn; to manufacture soap, etc.; capital, $10,000. Incorporators and directors for the first year: G. A. Edler, Brooklyn; J. Anderson, M. Gintzler, New York.

Still another new incorporation is the Fox River Soap Co., Green Bay; capital stock, $5,000; incorporators, Henry L. Larsen, Charles W. Strechenbach and Henry J. Callaghan.

Through an accident to the elevator in Babbitt's soap works last month two men were killed and two others seriously injured.

Additions to Our Brand List.

Angelo Olive 54
Trix 54
Boro Myrr 54
Glyco Tar 54
Four Leaf Clover 54
La Fiesta 54
Koko-Oil 54
Kold-Wata 54
Aroma de Clavel 54
Clavel 54
Power Soap — F. Martin, Columbus, Ohio.
Strawberry Juice Transparent Glycerine S. No. 202 — Frazer Soap Co., Chicago, Ill.
Veg-Oil 113
Osmosis Soap 4

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SUPPLEMENTARY LIST
OF THE
BRANDS OF SOAP MANUFACTURED IN THE UNITED STATES
Including also the Brands of Foreign Manufacture Registered as Trade-Marks in this Country.

NOTE: This list is compiled with the greatest possible care, but the publisher does not assume any responsibility other than to correct and to complete the list according to data obtained from official sources or furnished by the trade. Brands registered in the patent office as trade-marks or labels are given with the name of the party registering same. Brands or names marked * are those which were found to be used by more than one firm or the owner of which could not be ascertained. ☞ SEE THAT ALL YOUR BRANDS ARE ENTERED IN YOUR NAME.

3 Liberty Mfg. Co., Chicago.
113 Puck Manufacturing Co., Des Moines, Iowa.
344 Home Soap Co., N.Y.
345 Columbia Ref'g. & M'f'g Co. Ltd, New Orleans.
346 Beaumont Soap Co, Mayfield, Ky
347 Lockwood Soap Co., Kansas City, Mo.
348 Oklahoma Soap & Oil Co., Oklahoma City.
349 M. F. Windsor Soap Co, East Buffalo, N. Y.
350 Florida Cotton Oil Co., Jacksonville, Fla.
351 Brown Soap Co., Dayton, Ohio.
353 Southern Soap Co., Birmingham, Ala.
354 Zion City Soap Factory, Zion City, Ill.
355 Palami Co., Boston, Mass.

Ahrado, Floridine Mfg. Co., New York.
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Eucryl Eucryl Ltd., Hull, England.
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A subscriber asks us for the address of some firm who makes soap wrappers.

As the firms who make soap wrappers do not like the circumstance mentioned in the newspapers, we have sent our enquirer an address or two "on the quiet."

A number of Seattle laundries have been notified by the game warden that the spent soap suds which they are discharging into Green Lake, are poisoning the fish, and that they must discontinue the process.

That is right. There are so very many soaps that contain absolutely "nothing but the very choicest, edible vegetable oils," that there is no excuse for any laundry that persists in washing with anything else than choice, edible oils. These will not injure the most delicate linen, nor the baby, nor fish

Visitors to Buffalo, N Y, visit the Larkin Soap factory in large numbers, and are shown around freely, even as visitors to Milwaukee go in large numbers through the breweries located in this city. The resemblance stops short only in the last minute, i. e., to wit, at the "Sternewirth."

[Translations of this last word can be had at this office at 25 cents each, payable strictly in advance.]

Here is the "yell" of the Laundrymen's National Association, that was adopted for the emergencies of this year's convention at Kansas City:

Boom chicka boom, boom chicka boom,
Boom chicka ricka chicka, chicka ricka boom,
Boom chicka bōom ba. soap suds spray
Kansas City, naught-four, L N A
Gather up the soiled duds, put 'em in the wash:
Boom a lather, boom a lather, squash, O squash
Slip 'em in the starch-tub; hang 'em on a bar,
Associated Launderers! Here we are!

A soap factory located between North Milwaukee and South Chicago advertises that "every pound of fat is carefully tested and all impurities removed before they are made into soap."

It seems hardly possible that all the impurities are made into soap. But if it is a fact, the careful testing of every pound of fat used in the factory must be a

small matter indeed to the master-mind directing this factory.

At the St. Louis World's Exposition, Laundry Supply firms are represented ever so much more fully than soap supply firms. To be sure, laundries use several things beside soap, but soap is used by people who are not laundry men.

FROM OUR CORRESPONDENTS

A QUESTION ANSWERED.

Legano, Italy, Sept. 13, 1904.

Dr. Henry Gathmann.

Dear Sir: In your number of August of your appreciated Soap Journal I read the question of "Enquirer," to which I try to answer.

By saponifying tallow before the rosin a solution of glycerine free from the soluble matters of rosin is obtained.

Tallow is saponified more successfully with a lye free from salt, while, on the contrary, rosin is saponified best in a salted lye. The separation of the tallow soap from the large amount of water at the first operation, by using some half-spent lye and salt, leaves a certain quantity of salt solution in the soap which is then diluted in the next lye added for saponifying the rosin. By effect of salt, rosin does not stick at the bottom of the Kettle as sometimes follows by using pure caustic lye. Sodium carbonate makes the same effect as salt when the caustic lye is enough to saponify all the rosin.

I remain, Dear Sirs, Yours truly,

C. Gaviriti, Manager.

NAVAL STORES MATTERS.

Editor American Soap Journal:

The 4th annual convention of the Turpentine Operators' Association was held here some days ago, but to my great regret I could not attend to it, being out of town. For the benefit of your readers I have gathered the most serious questions on the board and found but two really worthy of attention. Of course the addresses of welcome, the throwing of bouquets and the "Ping-Ponging" of same was one of the ordinary features; nor was there lacking the string of jokes always at the command of our worthy mayor, although, be it said to his credit, he did not give the T. O. as much rope as last year in letting them kiss mulatto girls with impunity.

The T. O. were the recipients at the mouth of the orators, of unlimited congratulations for their spirit of enterprise, which brings so much money into the state.

It is true that some orators ventured timidly, very timidly indeed, that these spirited citizens, while bringing money into the state, were also destroying the very source of that industry, going so far as to say, though *trembling like*, "See that you do not kill the goose that lays the golden eggs." After that mighty effort, with the soothing satisfaction of having reconciled consience with duty, they collapsed and begged pardon for such an act of temerity; they were pardoned, the T. O. care very little for such trifles; they rather enjoy some mild "stirring" up, just for fun. One of the questions referred to was the resolution to discontinue the advance of money and supplies to the laborers. Of course that resolution passed.

The other resolution was the reduction of production ten per cent. of the last year, in order to obtain higher prices for their products. That resolution, of course, passed. And all went forth rejoicing over the good work accomplished, sending unanimously anyone who could presume to find fault with that state of affairs to.... Jericho!

Well, some are on that road now, for, I have seen in print some lamentations by "Consumers and Jobbers" concerning that last resolution, but it is safe to say that, that will not cause the smallest ripple on the calm surface of the "serene sea of strength" upon which the "ship of the T. O. A. floats.

It will take a great deal more than lamentations to change or even ameliorate the present and future conditions. A summary review of these conditions will not be amiss here.

Going back to 1901 we see, almost simultaneously, the advent of the T. O. A. and of the "Consolidated Naval Stores Co." The double aim of curtailing the production of products and of advancing the prices has been obtained by these mighty corporations, which on the whole, are but one. They have protected themselves against possible fluctuations detrimental to their greed in creating the tank and storage plant. This places them in such a position that, practically, they are masters of the market. The turpentine spirits will never again be quoted less than 50 cents per gallon *for the producer*. No factor will let the stuff go at less than that price because, should the situation of the market indicate a hint towards a lower quotation, there is a standing bid from the "Consolidated" to buy every gallon at 50 cents per. Naturally the jobber and consumer have to pay an "advance" on that price and no "wailing" will avail. Naturally, also the "dry stuffs" will advance in proportion and this for the same cause. Is it not strange to see that in spite of all these advantages so adroitly secured, the industry is doomed if not to entire destruction, at least to such a reduced condition that in less, much less than ten years, the United

States will fall from the proud position of being supreme on the markets of the world, will not produce enough for their own needs and will have to become importers of Naval Stores? Everybody realizes that, and I find my strongest authority in the Industrial Record, the organ of the T. O. A. and of the "Consolidated," which gives to the industry the short lease of life of 5 years longer! What a masterpiece of impudent, insolent effrontery! One of your readers wrote you sometime ago upon reading in your paper the description of the destruction to the pine forests, "He is a mean cur, he, who chops down trees without planting others for future generations!"

Oh! how right he is. I wish he could see here, a mile of two from the city limits, how the cowardly act of vandalism is going on, in bleading trees, no, small sapplings, some not 5 inches in diameter; they are hardly able to stand up, so deep are they cut. These are the remains of what was some time ago splendid woods. Now, you can compare these vast areas of "stumps" to the "land of desolation," offering not, the smallest refuge for man or beast against the burning rays of our semi-tropical Sun. At the approach of the season of the new legislature, there are signs of a revival of the agitation which took place 18 months ago, for the preservation of our pine forests. There has been some exchange of spicy compliments between two newspaper men, one of whom is the editor of the Industrial Record. The name of Robt. McNamee has been brought in and I look forward for a lively time if the indications play not false; but after all McNamee words and promises have proven to be somewhat hollow. He had said (it is on record) that he would make the preservation of the forests an issue in the political campaign that took place some months ago, but bless your heart, he never said a word about it; he was a candidate for Congress and was defeated: I am wicked enough to be glad of it: men who do more than talking are wanted to fight the battle. While public opinion is quite severe in condemnation of that devastation, I do not expect serious results from the coming agitation. The "destructers" are formidable, they possess unlimited resources and will buy everything purchasable, even votes. They have bought Herty's plant, rights, cups and all that he had to sell, and the question arises "what will they do with all that?"

Someone told me that, *perhaps,* the purchasers (the Consolidated) would enlarge their plants so that a larger quantity of pots could be manufactured than heretofore and give the "Hugnes" system a larger scope. Hum! Hmm! it will take stronger proof than a million of *"perhaps"* to convince me of such a laudable intention. I am rather inclined to believe that, that new venture will result in reducing the production of pots instead of increasing it, but then, I am so devilishly inclined to fall in line with the Thomasses' clan that I feel just as telling these "perhapsers" that they should belong to the same clan but with the "Thom" part of it left off. I have interviewed the editor and proprietor of our newspaper, the "Florida Sun," printed weekly, but which will be a daily from the 1st of October next. Although he is the author of that funny essay "Leave the perfumes to the flower," which you reproduced in one of your issues not long ago, he is a good fellow through and through. He is a splendid and fearless writer, as his editorials on matters of high interests have proved it. He is strong in his position, being a scion of one of our most prominent and influential families; he is one of those who by strength of character have the right to be as proud of the enemies they make in their professional career than of their friends whose name is legion. I do not believe him amenable to corruption and as he will have to take sides in the coming agitation regarding the preservation of the forests, I have tried to persuade him that our side is the honest one and I have his promise that he will acquaint himself with the fullest details of the situation and act according to the dictates of his conscience.

That much I have gained and I hope that he will come our way.

Yours truly,

E. MOULIE.

The Salt War Goes On.

More price cutting in the salt trade is reported, and sale is said to be lower than ever. According to many producers, it is now offered at prices way below the cost of production. Some of the weaker concerns have been involved in receivership proceedings, but the big fellows have continued the war, with apparently plenty of ammunition.

It is said that the price-cutting campaign is led by the salt trust, which is charged with a desire to compel its rivals to amalgamate with it or to force them out of business. Salt consumption is on the increase, and as many large consumers of salt have an interest in the smaller companies, the trust is said to have failed thus far in the accomplishment of its alleged purpose. Stocks of salt on hand are said to be enormous, and the prediction of further price-cutting is said to be due to the desire of such concerns as the International to unload some of this surplus stock.

The fact that salt is so cheaply produced in Great Britain and in the United States has had no little influence in developing packing industries, and the manufacture of hydrochloric acid, chlorine, and sodi-

um salts. It has also aided in the development of the chlorination process for the extraction of gold from its ores and of the wet processes for the treatment of silver ores. While the salt production of Austria-Hungary was less than 5 per cent. of the world's total output, the value of the product in that country was almost 40 per cent. of the total value of the world's production.

Salt went up in the United States last year. The production fell from 23,849,000 barrels in 1902 to 18,968,000 barrels in 1903, the smallest output reported since 1898. With the decrease in production, however, went an increase in value. The 18,968,000 barrels of 1903 had a market value of $5,286,000—which almost equals the $5,668,000 brought by 23,849,000 barrels in 1902. All of which makes the present price-cutting war the more remarkable. A variety of interesting data about the production, consumption, importation, and exportation of salt in 1903 are given in a report recently made to the United States Geological Survey by Mr. E. O. Hovey. The Wilson tariff act of 1894 placed salt on the free list, and importations increased from 434,155,000 pounds in 1894 to nearly 560,000,000 pounds in 1895. The Dingley tariff act put salt back on the dutiable list. The quantity imported in 1897 was, accordingly, nearly 20 per cent. less than in 1896, the total amounting to 418,049,000 pounds, and in 1898 the import fell off to 371,059,000 pounds, with one exception the smallest amount reported in thirty-two years.

The United States, which since 1892 had held second place among the countries of the world as a producer of salt, became the leader in 1897, ranking Great Britain by about 5 per cent. This advantage was increased in 1898 by a gain in the production of the United States and a decrease in the output of Great Britain. The total output of salt in the United States during 1902 was 44 per cent. greater than that of Great Britain for that year. It represented about 24 per cent. of the reported world's supply, whereas Great Britain produced only about 15 per cent.—Natl. Provisioner.

How Peanut Oil is Made in Marseilles.

In Marseilles the unshelled arachides are decorticated with great care, so as to injure the kernel as little as possible. After the first process the kernels and shells are carried to a winnowing machine (sasseur), in which sieves, paddles and strong-air currents are so contrived that the greater part of the kernels drop into a receptacle, while the residue moves into another compartment, where the same process is repeated, and the kernels remaining in the shells are similarly secured. The winnowing process continues until nothing but the husks and red cuticle remain, and throughout the process the agitation of the material is such as to eliminate most of the red skins. Some manufacturers make a pretence of removing the red skins separately, but in actual process it is fractured by decortication and eliminated in the sasseur.

After leaving the winnowing machine the seeds are introduced into a crusher, which compresses them into paste. The paste now passes to the "chauffoir," or heating pans. These heating pans may be warmed or left cool at will. At their base is a sort of drawer, from which the workmen remove the paste to fill their hair mats. These mats being filled, they are taken to the press and the highest grade of edible oil extracted. In order to secure the best results the pans should be cool, and the resultant product is called "huile surfine a froid." The pans being cool, the proportion of oil obtained is necessarily limited, and, in actual practice, a great many manufacturers heat their material even for the first pressing. A pressure of 300 kilograms (660 pounds) per square centimetre (0.39 inch) is applied gradually, in order that as little mucilaginous matter as possible may be expressed with the oil. This process being terminated, the mats are removed from the press and the seed cake reduced to paste. Steam is now applied to the mixture, and when the mass is sufficiently warm pressure is applied as before, and the product is now known as "huile fine a chaud." Arachides are usually pressed twice only, but sesame and other similar seeds receive three treatments, the value of the oil diminishing with each successive treatment.

The pressure upon the mats leaves a ragged edge upon the cake, which is cut off by means of a mechanical chopper. These fragments, which contain a large proportion of oil, are submitted again to the press with the next pressing.

On issuing from the press the graded oils are stored in tanks, and, after settling for a time, are pumped through filters, of which there are many upon the market. They are then bleached with fullers' earth, which, in the case of arachide oils, is quite sufficient, as they are naturally of a yellowish colour. Were they brown it would be necessary to treat them with alkali—like crude cotton oil. For the bleaching process with fuller's earth, the oil is heated in pans to about 80 deg. C. and from two to five per cent. of earth stirred in. After thorough agitation the oil is cooled and again filtered. It is reported that some manufacturers use sugar to sweeten the taste of oil produced from damaged seeds. The proportion added is exceedingly small.—U. S. Consular Report.

A Tax on Cleanliness.

Soap, at one time, occupied a position of eminent political importance as one of the causes which led to a great historical revolution, says a writer in the Wiener Seifensieder Zeitung. He refers to the revolu-

tion in England in the 17th century, which brought civil war over the British isles and led Charles I to the scaffold. Among the circumstances which earned him and his adherents the hatred of the people, his policy respecting soap was a not inconsiderable item. During the eleven years that he governed without Parliament, he did everything in human power to open new avenues of revenue. An important one among these was the granting of numerous monopolies, and among these the first and the most obnoxious was the soap monopoly. The soap manufacturers were compelled to form a corporation whose members alone were privileged to make and sell soap. The royal charter fixing the rights of the corporation was paid for with $50,000, but in addition a tax of $40 per ton of soap had to be paid into the state treasury. Thus soap was high in price and poor in quality. Further general enmity was aroused by the right granted to the corporation in the charter, of searching houses for evidences of soap made or sold secretely by parties not belonging to the corporation of soap makers. Trickery and annoyance were the natural consequences and the scandal rose to such proportions that in 1635 Charles wisely concluded to withdraw the privilege from the previous beneficiaries. But this was far from removing the monopoly; it merely changed hands. And since the new parties acquiring the concession had to pay not only the former tax, but also an indemnity of over $200,000 to the old corporation, the conditions following became worse than ever.

Essential Oil Progress.

At the annual meeting of the British Pharmaceutical Conference this year, President Idris, in his presidential address, touched upon the "chemistry of essential oils" and "essential oil researches." Following are his remarks (which we copy from the British & Colonial Druggist):

There are two aspects of the subject to which I may just devote a few words. Recent endeavours have been, to a large extent, directed to the production of synthetic bodies properly so called, and of artificially-made mixtures improperly called synthetics. In the first place, no one can seriously deny that the exact balancing of odours manufactured in Nature's laboratory is in general considerably superior to that turned out by art. But there is a tendency—due to ignorance and prejudice—to regard this as due to some inherent quality in natural products which is not present in artificial products. That, of course, is not so at all. Given chemically pure vanillin, for example, there cannot be the faintest difference between samples of natural or artificial origin. If the natural body be contaminated with traces of some other compound, derived from the same natural source, it may truly be superior to pure vanillin—and herein lies the whole explanation of the general superiority of natural over artificial products. Artificial compounds reach, as a rule, a very high standard of chemical purity; the natural products contain traces of bodies which mellow and round off the odour to its best advantage. Let us look at such a body as otto of rose. There is a so-called—but wrongly called—synthetic otto of rose on the market which, in the opinion of all connoisseurs, cannot in the least compare with natural otto. Is it to be wondered at? To get this so-called synthetic otto we mix geraniol, contaminated with other products from citronella oil, with an artificially prepared citronellol and a dash of phenylethyl alcohol and a few other bodies which are known to exist in natural otto. But after this mixture had been on the market for a year or two, two German chemists a month or two ago discovered three new compounds in natural otto of rose. They are the alcohol nerol, the phenol eugenol, and a sesquiterpene alcohol, possibly identical with farnesol. And if these bodies can be obtained from other sources at a price which would allow their use, there is no doubt that other bodies, in small quantities, which have hitherto been overlooked, will again be found in natural otto. Many similar examples could be quoted, but I use this illustration merely to show that the synthetic can only equal the natural after years of careful work and gradual improvement, the natural bodies always starting with a good handicap in their favour. As an example of synthesis, properly so called, I may mention the recently-published results of the work of Bouveault and Gourmand, who, by treating ethyl geraniate with sodium, have obtained rhodinol, the characteristic alcohol of oil of roses. The announcement of the synthetic preparation of camphor in America was made so fully and circumstantially in the *Scientific American Supplement*, 1903, that it excited great interest; but it was received with some surprise and a good deal of scepticism, which now appears to be justified. When the famine prices of a few months back were prevailing, one expected to see the American article on the market, but so far it still appears to be *in nubibus*, and one hardly knows whether artificial camphor is or is not being manufactured.

A direction in which a considerable amount of work has again been going on this year is on the study of the influence of external conditions on the characters and composition of the essential oils yielded by plants. This work has mostly been carried on by Charabot and his pupils, and by Jeancard and Satie, but in the latter case the work has been only of a desultory nature as compared with Charabot's more exhaustive researches. The obvious results of such work, if any be achieved at

all, must be in the direction of modifying for the better the characters of such natural products as essential oils. But I must confess—as I think I mentioned last year—that I am not convinced by the results published that sufficient has been done even to base the slightest generalization, such as the learned authors have allowed themselves to lay down.

In regard to special work connected with this large subject, I feel I can only skim over the surface and mention a few out of the many researches which have been brought to a successful conclusion this year. In regard to the adulteration question, to which I drew attention last year, I have made careful inquiries, and I am credibly informed that the very gross adulteration of several oils, such as peppermint and citronella oil, has greatly diminished. This is due very largely to the work of Parry, Umney and Bennett, to whose numerous papers on those two oils I only draw attention. The adulteration of peppermint oil, which reached a maximum towards the end of 1903, has lately been falling off; but sophisticated samples of American oil are still being offered on the London market. Parry and Bennett have recently published a summary of past work, and have separated another admixture, which they believe to be cedar wood oil. Oils which are not soluble in 70 per cent. alcohol, and have a low menthol content, cannot be passed as pure without full investigation and comparison with genuine samples. In a series of papers recently published, Parry and Bennett took up a strong position as to the value of "Schimmel's test" for citronella oil, pointing out that many samples which were not pure passed the test, and that the latter was, therefore, not to be relied on. This was not at first accepted by Messrs. Schimmel and Co., but in their semi-annual report, published in April 1904, they admit that Russian petroleum may be undetected up to 10 per cent. They have accordingly devised a test for citronella oil, which they called "the raised Schimmel test," which consists in adding 5 per cent. of Russian petroleum to the sample of oil and determining the solubility of the mixture in 80 per cent. alcohol. No separation should take place if the original oil is pure. The use of Schimmel's test alone is therefore acknowledged to be useless for detecting small proportions of adulterants.

Another English chemist, Spurge, has shown that the German method of determining eugenol in clove oil, elaborated by Thoms, is inaccurate, with the result that Thoms has agreed and modified his process accordingly. J. C. Umney confirms the statement that the specific gravity of English lavender oil increases with age, and notes that the last distillates, although containing a higher percentage of esters, have a decidedly pleasant odour. He points out that the separate collection of the last fraction is justifiable on this account, and that a specific gravity of 0.883 may be taken as a minimum limit for a pure English oil. His observations on the distinct influence of the soil on the character of lavender oil are very interesting. Cajuput oil has been the subject of an article by J. C. Umney, who points out that the specific gravity and content are distinctly lower than those met with a few years ago, and suggests a lowering of the mimimum specific gravity limit in the British Pharmacopoeia to 0.919.

A protest against selling lemon oil guaranteed to contain 7 per cent. of citral has been published by Parry, and his opinion that lemon oil does not normally contain more than 3.5 to 4 per cent. has been supported by Burgess and Child, Chapman, and others, and confirmed by manufacturers of terpeneless oil of lemon, who find it impossible to obtain more than 5 per cent. of flavouring constituents, of which only about one-half consists of citral. An exhaustive paper on the determination of aldehydes and ketones in essential oil by the neutral sulphite process was read by Herbert E. Burgess at the December meeting of the Society of Public Analysts (1903). Special details were given in the paper for the determination of citral in lemon oil; concordant and accurate results were also obtained in the case of carvone, cinnamic aldehyde, benzaldehyde, and in the analysis of caraway, cassia, cinnamon, spearmint, almont, lemongrass, cumin, pennyroyal, and many other oils containing aldehydes and ketones.

The physical constants of acetylated santal wood oils have been published by Parry and Bennett, and also the characters of various fractions of santal oil distilled under reduced pressure.

Parry and Bennett have found that samples of adulterated spike oils will pass the generally accepted solubility test, and propose to reduce the strength of alcohol used in the test from 70 per cent. to 65 per cent., in six volumes of which all pure oils are soluble. The experiments of Von Soden and Taffe appear to prove that the alcohol nerol is present in otto of rose to the extent of 5 to 10 per cent., and that it plays a most important part in the specific perfume of the otto. Hudson Cox and Simmons have determined the iodine absorption of several samples of pure and adulterated otto of rose, and propose a limit of 187 to 194 for pure oils. Geranium oil and other common adulterants give much higher figures, and it is stated that small proportions can thus easily be detected. Several new odorous bodies of interest have been discovered during the past year, amongst which farnesol, probably one of the most important, is a sesquiterpene alcohol isolated from the essential oil of cassie flowers, and probably detected in otto of roses also. A new sesquiterpene, to which the name of limene has been given, has been discovered in

oil of limes and in oil of lemons by Burgess and Page, and Chapman has isolated a light terpene closely resembling myrcene from oil of hops. Power and Lees have also isolated a new ketone, "umbellulone," from the oil of California laurel leaves.

SOME SUGGESTIONS FOR THE B. P.

Amongst those oils which have been very fully investigated I may mention pimento, in which many new bodies have been discovered, including cincol, phellandrene, methy-eugenol, and palmitic acid; lavender oil, in which amyl alcohol and a new ketone have been discovered; patchouli oil, in which benzaldehyde, cinnamic aldehyde, a terpene alcohol, a new ketone, a new base, and several sesquiterpenes have been found; and laurel leaf oil, in which several fresh constituents have been discovered. There have, I am glad to say, been many other papers published by English chemists on this subject, and in this connection I may say a few words as to suggested alterations in the British Pharmacopœia in this group. All the new editions of other pharmacopœias which have recently appeared have made distinct progress in this department, and, considering the immense amount of adulteration in essential oils, the Pharmacopœia authorities ought certainly to see that the descriptions and methods of assay are correct and up to date. To mention only quite a few examples which require revision:—Under oil of aniseed the congealing point is given as from 10° to 15°; when scientifically taken this figure is more often than not 15.5°, and just falls outside the B.P. limit. The specific gravity of cajuput oil is fixed too high; that of lavender oil might be slightly modified; otto of rose is described as being derived from *Rosa damascena,* but it is in fact always derived from this and a mixture of white roses in Bulgaria, and from a different rose altogether in some other places. The specific gravity of otto of roses, as given in the B.P., 0.856 to 0.860, is wrong; in most years the proper limits are 0.850 to 0.857, and an otto with a specific gravity 0.960 at 30° is, in nearly all seasons, certainly adulterated. Under balsam of copaiba the characters of oil of copaiba are quite erroneous; the figures for oil of lemon are such that no analyst dare rely on them; under santal wood oil the santalol content is not given, yet it is agreed by every authority in the world that it should be at least 90 per cent. I think that in the next edition the editors should boldly adopt the latest and most scientific methods for testing these bodies as a means of assisting in reducing adulteration to its lowest limits. I might go on to great length on this subject, dealing with the numerous additions to the literature of the subject, but I have purposely only made allusions to the more important points.

Antiseptic Solution of Soap.

Beysen (Apot. Zeit.) states that for the preparation of antiseptic soap solutions ordinary soft soap may be employed, but that a potash cocoa-nut soap is better because it lathers more profusely. This soap may be prepared by saponifying 500 grams of melted cocoanut oil with 330 grams of a caustic potash solution, specific gravity 1.384, and 200 grams of methyl alcohol. The soap thus formed is neutralized with oleic acid and either medicated and filled into tubes in the gelatinous form or diluted to 2,000 grams with water. This 50 per cent. soap solution may be mixed with medicinal agents as follows: Thymol, one part, dissolved in 2 parts of alcohol and mixed with 4 parts of the soap solution; creosote, one part, with 2 parts of solution; menthol, mixed with 3 parts of alcohol and six parts of soap solution; camphor, dissolved in 2 parts of alcohol and mixed with 10 parts of soap solution; and tincture of myrrh, with equal parts of the solution. A 3 to 5 per cent. paraform soap may be made by dissolving the substance in the solution with which it seems to form a compound. Dilution with water and the addition of essential oils or camphor to mask the odor of formaldehyde yields an excellent disinfectant.

Detection of Mineral Oil in Distilled Grease Oleines.

BY AUGUSTUS H. GILL AND STEPHEN N. MASON IN THE JOURNAL OF THE AMERICAN MEDICAL SOCIETY.

In the woolen industry a large quantity of soap and oil is used in cleansing, oiling and milling the wool, yarn and cloth during the different processes of manufacture.

Formerly all the waste from this washing went into the streams and was lost, also polluting the water and making it unfit for other purposes. At the present time this waste is recovered, and after suitable purification is used over again.

The soap-suds are collected in large tanks (of 6,000 to 8,000 gallons capacity) and a mineral acid, usually sulphuric or preferably hydrochloric acid, is added to precipitate the fatty acids, the mixture thoroughly stirred and allowed to settle. The fatty acids rise to the top, are skimmed off and thrown upon cloth or sand filters to drain. The fatty matter thus collected, which is known as the "magma" or "sake," is packed in cloth bags and pressed hot. The dark, greasy product thus obtained is known as "recovered grease," or under the trade name of "degras." This is used for stuffing leather, making soap, in the manufacture of lubricating greases and wool oils. It is, however, particularly in England, often distilled, as is described below.

The distillation is carried on in cast iron stills (wrought iron cannot be used, as it is rapidly corroded by the fatty acids), connected with suitable condensing apparatus. In most works jets of superheated steam are used in addition to direct heat to lift the heavy vapors from the still, as it is claimed that this gives a larger yield of useful products, and that the quality is better than when direct heat alone is used. There are several fractions in the distillate, but the one that interests us is known as the "first distilled grease." This product may be redistilled for further purification, or it may be subjected directly to pressure, yielding as products a solid "stearine" and a liquid "oleine." It is to be noted that the name "oleine" is not indicative of the chemical composition of the oil, although it contains oleic acid, but is used to distinguish it from the solid stearine.

These distilled grease oleines are largely used for oiling wool, hence are generally known as "wool oils." The analyses of several distilled grease oleines, as given by Lewkowitsch, are as follows:

Gravity.	Free fatty acids. Per cent.	Unsaponified matter.	Neutral oil.
0.9083	55.3	35.9	8.8
0.9031	55.02	34.66	9.2
0.8980	56.26	29.46	11.95
0.9000	59.83	38.92	1.25

Those upon which we worked showed the following composition:—

	Fatty acid	Unsaponified matter.	Neutral oil.
Oil A.....	50.7	46.5[1]	2.8
	50.7	45.0[2]	4.3
Oil B.....	36.3	46.0[1]	23.1
Oil C.....	45.1	38.3[2]	16.6
Oil D.....	45.5	41.4[2]	13.1
	45.5	46.4[1]	8.1

These four were from the following sources: Oil A, a pure oleine imported directly from the manufacturers by one of us. Oil B, a pure oleine from a local dealer. Oil C, a pure oleine from a manufacturer's agent. Oil D, an oleine of doubtful purity from a dealer in this country.

[1]Unsaponifiable matter determined from saponification matter.

[2]Unsaponification matter determined by extraction with gasoline.

All but D were guaranteed pure and, in particular, free from any admixture with mineral oil.

The composition of the oleines varies greatly according to the grease from which they are prepared. They contain, in general, saponifiable esters of the fatty acids, *i. e.*, neutral fats, free fatty acid, and unsaponifiable matter, consisting of cholesterol, isocholestrol, and other higher alcohols characteristic of wool fat and hydrocarbons formed by breaking up of the fatty acids during distillation; *e. g.*, cetyl palmitate splits into cetene and palmitic acid.

These hydrocarbons resemble so closely those in mineral oils that the latter are difficult of detection when mixed with distilled grease oleines. Hence there is a temptation for dealers to adulterate these oleines with the cheaper mineral oil. The object of this work was to establish reliable means of detecting such adulterations of mineral oil in these distilled grease oleines. The method of procedure in obtaining the hydrocarbons from these oleines consisted in saponification with alcoholic potash, extraction of the unsaponifiable matter with gasoline, and the treatment of this matter with boiling acetic anhydride to separate cholestrol and other higher alcohols, leaving the hydrocarbons pure. The hydrocarbons, prepared from different samples of distilled grease oleines, were compared directly with mineral oils, which would be likely to be used for adulteration.

The extraction of the unsaponifiable matter was carried out as follows:—200 grams of the oil were saponified by boiling on a water-bath two or three hours with an excess of alcoholic potash (120 grams to the litre) in a 750 c.c. flask, provided with a return flow condenser. When the saponification was complete the solution was transferred to a litre separatory funnel and shaken several times with 300 to 400 c.c. of redistilled gasoline (86 deg. Be). The soap solution was thrown away. The gasoline solution was concentrated to about half its volume and washed with warm water mixed with a little alcohol, in the separatory funnel till all the soap was removed. The remainder of the gasoline was distilled off in the water-bath, and the residue heated to 130 deg. C. in a porcelain dish to drive off the water and last traces of gasoline.

From the saponification numbers of the different oils the requisite amount of alcoholic potash was calculated, and 100 per cent. excess employed. After the saponification, when gasoline was first added and the mixture thoroughly shaken, no separation into two layers occurred, even after several hours' standing. Salt was added, but without effect. Finally water was added in small quantities until two distinct layers formed. In washing the gasoline solution water alone was tried, but did not appreciably dissolve the soap. When warm water, mixed with a little alcohol, was used the soap dissolved readily. In heating the oil to 130 deg. C. to drive off water, a very small flame, or better, an electric stove should be used, and the oil constantly stirred to prevent bumping. A thermometer serves well as a stirring rod.

The unsaponifiable oil was freed from cholesterol and other higher alcohols by boiling for an hour with 100 c.c. of acetic anhydride in a flask provided with a return flow condenser, and heated over a sand-bath. Water was added and the solution transferred to a separatory funnel, where it was washed with water and alcohol until the upper layer was clear and no odor of acetic acid was perceptible. The cholesterol and higher alcohols were dissolved by the acetic anhydride leaving hte hydrocarbons.

After submitting the oils to this process, a determination of their saponification number was made, and if more than 0.2 c.c. of alcoholic potash was used up, the treatment with alcoholic potash and acetic anhydride repeated.

The bromine numbers of the hydrocarbon oils were determined according to McIlhiney's process:

TABLE I.—BROMINE NUMBERS OF HYDROCARBON OILS FROM DISTILLED GREASE OLEINES.

	Addition.	Substition.	Total.
Oil A	28.8	14.2	57.2
Oil B	25.1	14.8	54.7
Oil C	21.5	16.8	55.1
Oil O	3.8	9.0	21.8
Mixture of 50 per cent. oil A and 50 per cent. white rose oil	9.0	12.85	34.7

TABLE II.—BROMINE NUMBERS OF PURE MINERAL "WOOL OILS."

Extra white rose oil	5.7	5.6	16.9
White rose oil	5.3	5.9	17.1
Eclipse white spindle oil	4.5	8.4	21.3
Eagle neutral oil	4.4	6.7	17.7
XX wool stock	5.9	7.5	20.9
Average for pure mineral oils	5.2	6.8	18.8

The next means of distinguishing between the mineral oils and the hydrocarbon oils from the pure distilled grease oleine was the optical activity of the various oils, as shown by the Laurent polariscope. The undiluted oils were so cloudy and so much colored that it was impossible to obtain readings, hence they were diluted with ten parts of benzine. Even then readings were made with difficulty and were only accurate to within five minutes.

As the amount of rotation depends on the concentration of the optically active substances, the rotation for the pure oils would have been eleven times that of the actual readings. Mineral hydrocarbons are supposed to be optically inactive, but a small rotation was found in each case. This may have been due to the inaccuracy of the readings.

The results obtained with the polariscope are shown in the table below:

TABLE III.—ROTATION OF DISTILLED GREASE HYDROCARBONS AND MINERAL OILS.

Name of oil.	Average of actual readings.	Rotation for pure oil.
A	1° 38′	17° 58′
B	1° 36′	17° 36′
C	1° 23′	15° 13′
D	16′	2° 56′
E (mixture of A×rose)	53.4′	9° 47′
White rose	6′	1° 6′
Venango neutral	11.2′	2° 3′
Eagle neutral	7′	1° 17′
2 Wool stock	6.8′	1° 15′
Average for pure distilled grease hydrocarbons		16° 56′
Average for pure mineral oils		1° 25′

The fluorescence of the oils is also a means of distinguishing the mineral oils, which give a blue color, from the distilled grease oleines, which give a green color. It was found that oils A, B and C gave a green fluorescence; oil D gave a blue fluorescence; oil E gave a greenish fluorescence. Of the mineral oils, White rose, Extra white rose, Eclipse white spindle, XX Wool stock and Venango neutral, all gave a vlue fluorescence. The only exception to the fluorescence rule in the case of the oils used was the Eagle neutral oil, which was green, while all the other mineral oils were blue.

The specific gravities of the oils are so close together that this is not a reliable means of detecting mineral oil, although the mineral oils have a somewhat lower specific gravity. The specific gravities of the oils are shown in Table IV. The indices of refraction, as determined by the Abbe-Zeiss refractometer, show a decided difference between the two classes of hydrocarbons. This is also shown in Table IV.

The only exception to the rule was in the case of oil D, which all the other tests showed to be mixed with a mineral hydrocarbon oil. This oil had an index of refraction of 1.4921, nearly as high as the pure distilled grease hydrocarbons.

TABLE IV.—SPECIFIC GRAVITY AND INDEX OF REFRACTION OF DISTILLED GREASE, HYDROCARBONS AND MINERAL OILS.

Name of oil.	Specific gravity.	Index of refraction at 20° C.
A	0.896	1.4967
B	0.902	1.4991
C	0.895	1.4948
D		1.4921
E mixture		1.4850
Extra white rose	0.848	
White rose	0.853	1.4735
Eclipse white spindle	0.855	

Venango neutral		1.4662
Eagle neutral	0.859	1.4750
XX Wool stock	0.863	1.4709

The results of the various tests, as applied to the different pure oils and the mixture of oil E, of 50 per cent. oil A and 50 per cent. White rose oil, seem to show that there are three or four reliable methods of detecting mineral oils in distilled grease oleines. First, the bromide numbers, and particularly the addition numbers, of the hydrocarbons from the pure oleines are much higher than those of mineral hydrocarbon oils. Second, the distilled grease hydrocarbons are optically active, giving a rotation for the undiluted oil of from 16 to 18 degrees, while the mineral hydrocarbons are inactive or give only a slight rotation, 1 or 2 degrees. Third, the indices of refraction of mineral oils are lower than those of the distilled grease hydrocarbons. Fourth, the flourescence of mineral oils is in general blue, while that of the oleine hydrocarbons is green. These tests, as applied to oil E, and a mixture of 50 per cent. oil A and 50 per cent. White rose oil, gave results from which the following percentages of mineral oil were calculated:

Test.	Mineral oil per cent.
Bromide number	56.7
Polariscope	48.6
Index of refraction	50.4

An investigation is in progress to determine the nature of these distilled grease oleine hydrocarbons.

In conclusion, we wish to express our indebtedness to Mr. Royal L. Wales for careful preliminary work leading up to this investigation.

Lye For Cold-Made Soap.

A writer in the Seifenfabrikant recommends, for use in the best, unfilled, cold-made soaps, to prepare the lye by dissolving the caustic in only enough water to make the lye 43° B. in strength. He argues that such lye, on resting, precipitates a certain amount of foreign salts which are responsible for "whitewashing," "sweating," etc. The clear lye is then diluted to 36-38° B. before use. The precipitate is used for other purposes.

Superheated Steam.

Every engineer knows that the improvement in steam engine economy witnessed during the last thirty years has been due primarily to the constantly increasing higher steam pressures employed and to the introduction of compound and multiple-expansion engines. To be sure, many mechanical details, such as valve gears and governors, have been perfected; but the fact remains that whatever progress has been made is due to the utilization of higher pressures. That improvement, it must be admitted, has probably reached its limit. Such is the increased cost of building more than a triple or quadruple engine, that the very slight increase in economy produced by an additional cylinder hardly proves remunerative. Moreover, certain limitations have been imposed by boiler design, limitations which have prevented the attainment of pressures greater than 250 pounds.

It is because the present system of steam engineering is incapable of any great advancement that we may expect a more general return to the use of the superheater. We use the word "return" advisedly; for, whatever may be the general impression among engineers, the employment of superheated steam dates back very nearly three-quarters of a century. As far back as 1828 a certain Capt. McGregor, in order to compete with the record established by a rival Cornish engine, whose cylinders had been insulated with sawdust, constructed a jacket of brick around the cylinder of his engine and the steam pipe, with an air space between the brickwork and the iron. In the open space he built a fire; and by the heat generated he increased the duty of his engine from 41,000,000 to 63,000,000 foot-pounds per bushel (86 pounds) of coal. The great Richard Trevethick himself made many an interesting experiment, which convincingly proved, to him at least, the great reduction in coal consumption to be effected by the utilization of superheated steam. Every great engineer has, at some time, conducted experiments of more or less value. Men of the stamp of Ericsson, Hirn, Isherwood and Faraday were able to show an increase in economy varying from 20 to 27 per cent. Such, indeed, was the impetus given by their researches that superheated steam was very widely introduced in marine engineering in the two decades extending from 1850 to 1870, and this, notwithstanding the great difficulties encountered in lubrication, and notwithstanding the fact that the material of which the superheaters were made was unable to withstand intense heat for any length of time. The lubricant of those early days consisted, not of our present mineral oils, but of animal fats, which obviously were anything but commendable lubricating agents. But even animal oils proved of sufficient service with the low pressure of 50 pounds and the temperature of 100 deg. Fah. given to the superheated steam of that day. It was when the high-pressure, compound engine was introduced, that the development of the superheater was checked. The greater economy of the new engine, compared with the low-pressure, single-expansion machines that had been theretofore used, the consequent saving of space and weight, both of them important on shipboard, and the reduction of the temperature in superheating the steam

to a point at which the difficulties of lubrication were overcome—all these contributed to the abandonment of the old-time low-pressure, superheated steam engine.

Ever since the days of James Watt, engineers have realized that the principal loss of efficiency in the steam engine is due to the condensation of steam in the cylinders. Assuredly, the most obvious way of overcoming the difficulty is to superheat the steam. This, moreover, would be one of the simplest methods of increasing the economy of the steam engine, still lamentably low, despite the progress of recent years. To those who are at all familiar with the history of steam engineering in the past century may be commended a paper by Prof. Storm Bull, recently read before the Western Society of Engineers, and published in the current issue of the Supplement, in which the subject is discussed with a fullness that cannot here be emulated.

It is rather remarkable that the improvement of the superheated steam engine has been undertaken chiefly in Germany. Many readers will doubtless recall the astonishing results obtained about nine years ago by Schmidt with a boiler and engine of his own design—results which showed that with superheated steam a consumption of steam of only 10.4 pounds per indicated horse-power was possible, and that the amount of coal used per indicated horse-power per hour could be reduced to 1.3 pounds. Schroeter has lately published results of equally interesting tests of a 250-horse-power steam engine. The difficulties which were encountered many years ago in the construction of superheaters that would not readily wear out have in a large measure been overcome. The problem of lubrication has also been solved with the introduction of suitable mineral oils. With these technical advancements, therefore, the outlook for the superheated steam engine is certainly bright.

Neutral Wool Fats.

Within the past decade there has been put upon the market a product which is attracting to itself more and more attention of those engaged in the fat industry and its kindred branches. And not without reason is this true, for this new product represents the oil that exudes from the cutaneous glands of the sheep and completely saturates the fleece, and is known to the trade as neutral wool fat.

Having been relieved from soap, water and dirt, it appears in commerce, technically free from fatty acids, and absolutely free from mineral acids. There are several grades of it known to the trade and they are distinguished by their color.

Neutral wool fats differ from vegetable and mineral fats in that the fatty acids which they contain are not combined with glycerine, but cholesterine and the so-called fat-alcohols. This combination renders them much more stable in their resistance to the influence of heat, air and light than are the other fats from mineral or vegetable sources. Even exposure to atmospheric changes during extended intervals have failed to cause any alteration in their character, and when compared with glycerides or glycerine fats they disclose no increase in the formation of acids or any inclination to become rancid.

A further consequence of the peculiar constitution of these neutral wool fats is their great power of resisting the effects of alkalies and caustic alkaline earths.

For this reason they are, under ordinary conditions, non-saponifying. Only under pressure or exposure to great degrees of heat may even partial saponification be attained. Moreover, when thinned down or diluted neither hydrochloric nor sulphuric acid has any appreciable effect upon these fats. They mix easily with water, and are capable of taking up half their weight of water comfortably, and of holding it continuously; a peculiarity which is of value when it is not a question of incorporating larger masses of the fluid.

In general the neutral wool fats are capable of the greatest powers of resistance among the fats and their prominent characteristics assure them an ever increasing applicability in the fat industries.

Besides the general uses, which the neutral wool fats enjoy in common with other fats, in the manufacture of technical products, they are peculiarly adapted, on account of their special properties, for the manufacture of stuffing box lubricants and other kinds of packing as a substitute, partial or entire, for tallow, vaseline or paraffine in the shape of additions to fats requiring a certain consistency, and so forth. On account, too, of their high degree of viscosity, as well as their flashing point (260 deg. C.), they form suitable additions to machine and cylinder oils.

Peculiarly adapted are they for the preservation of metals, wood or any kind of material against the disintegrating influences of the weather, and chiefly so by reason of their own inherent power of resisting atmospheric changes and their effects. Thus we see these fats advantageously applied either alone, mixed with a dryer, or added to other fats and oils, in the formation of points for covering metals; furthermore, they are used for impregnating ropes and cordage after the manner of tar, also in the fabrication of cables and accumulators in the manufacture of water-proof roof paper and insulating materials.

They serve as paints or impregnating material for door sills and flooring; mixed with drying oils, or with a siccative and dissolved in some fat solvent, they con-

stitute an excellent water-proofing for walls, which are compelled to bear the brunt of continuous storms.

Their ability to withstand the attacks of alkalies, acids and other chemicals make their application profitable wherever iron, wood or masonry is to be protected against the corrosive influence of liquids and acid fumes, wherever it is important that, in the simultaneous presence of both fats and alkalies or alkaline earths, saponification should be avoided, as, for instance, in the saturating vats of a sugar refinery, in the vacuum pans where alkaline liquids are condensed to prevent foaming, and in other branches of manufacture where fats and chemicals are employed side by side.

In the shape of cholesterine compounds the neutral wool fats form the natural protecting oil for the skin and, as a consequence, are wonderfully well adapted, either alone or in combination with tallow and train-oil, for the greasing of skins in the tannery or leather dressing establishments, as an addition to degras, in the belting department for the preservation of driving belts, or for the preparation of hoof fats and salves of all kinds in veterinary science.

From the above it would appear that there is scarcely another fat which possesses such a many-sided application, and yet what we have given is far from detailing all its opportunities. Industries not even hinted at here, for example, rubber, rust-preventative, the manufacture of aniline colors, may one and all make advantageous use of these fats. — Chemische Revue: Oil, Paint & Drug Reporter.

The Romance of Light.

There are few objects in daily use about which we stop to ask how they came to us, and through what stages of development they passed before arriving at that perfection which we now enjoy. Should we turn a retrospective eye toward "those good old times," we should be amazed at the slow steps of progress, and the almost infinite struggles through which inventions came into acceptance.

The connection between a burning fagot and an electrolier may seem remote, but every link in the chain is perfect. From the smoky rays of the first flaring brand of the cave-dweller, to the electric light, filling the most spacious halls with its glory and making the streets of our cities luminous as the day, the way has been paved with human effort and illumined by human genius.

The pine torch was no doubt coeval with fire in the hands of men. The resinous knot was the first step in artificial illumination. Its use is found in every savage tribe and nation, while it is a necessity in the lives of all first settlers in new countries. When the nineteenth century dawned, the children of America were learning to read by the light of pine knots and the crackling of logs of an open fire-place; so closely are we related to what may seem the remote past.

It is hard to believe that the world groped on to the thirteenth century without discovering even the tallow candle; yet so it is. The expression that "mankind was plunged in darkness during the early ages" is true in every sense. It was perhaps the accidental burning of a bit of fat of some slain animal that suggested its use as a luminant, while the hollow shell from the sea, a concave rock, or a mold of sun-baked clay held the fat, which was burned by placing a rush in the fat, with the lighted end projecting over the edge of the rude dish. Step by step the lamp was fashioned into a thing of beauty, though barely a joy forever. Thus came the first improvement in the art of domestic illumination.

Admirable specimens of lamps in terra cotta, in stone, in brass, and in bronze have been found on sites of Hebrew cities and in the temples of Hindustan. From the tombs of Egypt; from the tumuli of Assyria and ancient lettered Babylon; from the opened graves of Chaldean sages, come examples of household lamps, revealing a general use many centuries before the Christian era. Herodotus speaks of a procession of lamps, as a scene of imposing magnificence, and Homer sings of a torch borne upon a staff, its flame no doubt feeding upon the wax from the wild honey, and the resinous gums of the forest trees, nearly a thousand years before the Christ.

So, from the fat of slain animals, the resinous products of the forest trees, and the wax of the wild bee came those lights which gleamed upon fair women and brave men at Belshazzar's feasts, the revels of Dives and the grand balls given by the first Napoleon in the Palace of the Tuilleries.

When men discovered the art of extracting oil from the olive and other vegetable sources the use of the lamp became very general among the wealthy and noble. Only they could enjoy the less offensive methods. Lamps wrought in cunning form of marble, silver, and gold were ornamented with precious stones, inlaid with curious handicraft and artistic workmanship indicate a high position for this method of illumination. Even the terra-cotta specimens, used in cottages, are graceful in shape with an elegance of finish which no art of modern times can surpass.

Beautiful as indeed they were, of how little practical use! An eighteen-penny lantern of the eighteenth century, with its tin reflector and its bullseye of third-rate glass, diffused a better light than any lamp of Rome or Greece in the days of their greatest glory.

As they knew no method for refining oil, they made it a luxury by mixing with it the perfumes of the rose and of sandal wood. Although detracting from its burning properties, the fragrance was supposed to compensate for diminished light. The flame emitted an enormous amount of smoke, and fluttering in the slightest breeze spluttered out altogether in a gust of wind. At the end of an evening conference a party of noble Romans would resemble a congregation of chimney sweeps.

From Rome the oil lamp passed successively into Germany, Gaul, and Britain. In these countries, torches, rushes dipped in grease and a very odorous fish oil were the methods of artificial lighting until the Roman conquest. The rush-light of that day consisted in a notched wooden stick set in a wooden base. Stalks of the rush were peeled to the pith save for one strand of husk, and passed through hot grease. Sometimes three or more were twisted together and when cold were placed in a notch of the standard, to be pushed up when the fire neared the wood. It emitted a strong flame and a similar odor. You may make one of these, and enjoy for an hour the ancient light of Britain and that which to this day dispels the gloom of night in remote Irish cabins. The candle of the common people was the rush-light of our ancestors. It burned where candles made from wax were too dear and before Chevreul and others found a way to refine a cheap candle grease from the fat of animals.

The Picts and Scots, the Danes and the tribes of Scandinavia had not advanced to the use of the rush-light at the time of the conquest. When torches were necessary they stuck a bit of wood into the body of some fat bird, and supporting the stench as best they could, allowed this dismal sort of a candle to burn until the bird became a cinder.

The lamp as brought from Rome continued in use without being greatly modified until well into the thirteenth century, when the invention of candles made an artificial light of comfort to those who could afford it.

The curfew bell which tolled at eight o'clock was no hardship to our ancestors, considering the badness of the lamps which lighted their houses or hovels as the case might be. Through all the mediæval ages, men were supposed to rise at daylight and retire soon after the sun had set.

The first step toward the use of the modern candle was the invention of a tallow torch which came into use about the last of the twelfth century. This remained in use for about a hundred years when the tallow candle either dipped or molded made its appearance, much as it now exists. The haughty barons who forced King John to sign the Magna Charta at Runnymede would have considered a bundle of tallow dips of almost as great value as the rights which they wrung from the unwilling hand of their sovereign. To have stolen one from the kitchen table would have incurred the noose without hope of pardon. Not until the fifteenth century were the burgesses and trades people able to purchase a tallow candle. At the opening of the nineteenth century they were sold singly for about twelve cents each.

Flax being the wick, they burned rapidly. Cotton was more expensive than silk and to use it for wicks was extravagant folly. Three pounds sterling was the price of a pair of cotton stockings one hundred years ago. Tapers made of wax had been in use in churches since the ninth century, but no one ever dreamed of using so expensive and sacred an article for domestic purposes. Toward the close of the fourteenth century they were timidly introduced in a few palaces, and the homes of great noblemen. To offer a wax taper at a shrine was a princely gift, and absolution followed the presentation of a taper weighing one pound. To vow a taper to the Virgin Mary was like vowing a hundred doves to Venus or a heifer to Juno. At a cost of four hundred crowns in gold, King Henry sent two wax tapers weighing twenty pounds each to Thomas à Becket, hoping thereby to appease the great primate of Canterbury.

In the Cathedral of Pisa a ton of bronze slowly swings from the lofty dome. A keen-eyed student watches its regular oscillations as its hundred wax tapers flash upon a thousand worshippers engaged in evening prayer. The great candelabrum, almost a world's wonder at the time, was weaving a message of light in Galileo's brain, and from the cathedral he went away to startle the world with the story of its motion and to reveal the secrets of the pendulum as a means for measuring time. Still swings the chandelier under the cathedral's dome, with the same potent motion as when its flashing lights taught the old astronomer the deeper story of the world's life.

In the year of 1509 a few enterprising chandlers conceived the idea of mixing animal fat with the wax, but the deceit being discovered the king by royal edict debarred every chandler of the realm from making and offering for sale any mixed substance or composite article in the place of wax.

It was no doubt after seeing on his grocery bill that he was paying 36 shillings a dozen for candles that Oliver Cromwell in the year 1654 blew out one of the two candles on his wife's work table, on the ground of unnecessary extravagance. Louis XV. complained that he could keep a regiment, music and all, with what was spent in lighting the palace at Versailles. It is related of Voltaire, that, when dissatisfied with the salary afforded by Frederick the Great, he used to put in his pocket the wax candle ends of his royal master,

and from them turned quite a pretty penny. The cost of lighting the Tuilleries under the first Napoleon with wax candles was about what it would be were the electric lamps of the present day employed—namely, $4,000 per annum. When the Emperor was giving magnificent fetes at Dresden he often spent six hundred dollars for the wax candles of a single night's carousal.

When, however, wax and tallow had been sufficiently cheapened to allow their use in drawing rooms and boudoirs, the oil lamp and the rush light were relegated to the parlors and kitchens. No room in which costly paintings and gilded furnishings began to exhibit elegance and refinement could tolerate the smoky and greasy contrivances which remained without improvement through the centuries.

Toward the middle of the eighteenth century the number of lamps increased among the poorer classes, owing to the invention of Colza oil. The new liquid was far cheaper than the olive oil used in France and Italy or the whale oil of England and America. Not till then began the processes of lamp regeneration. It was in 1783 that an enthusiastic and radical reformer, one Argand, discovered a lamp which consumed its own smoke and most of the odor. By admitting oxygen to both sides of a flat flame he increased the light so that a shade became necessary. The new lamp was at once popular in France and England. When improved by a convex reflector placed behind the flame, the light was rendered too dazzling for an ordinary room.

Fred and Phillipe Girard improved this lamp, placed the reservoir for oil below the wick; softened the glare by the use of whitened glass, giving the first effect of beauty to artificial light. It is an interesting fact that the first appearance of the new lamp devised by the brothers Girard took place in London at a party given by the Duchess du Barry, then in exile. Josephine, hearing that it was enthusiastically admired, and jealous that it was not first seen at her soirees, ordered the brothers to bring a lamp at once to the palace. The significance of this circumstance is little beyond the fact that the lamp presented by the brothers to the Empress was decorated by a young and obscure artist, struggling for bread, to be later known throughout the world as Jean Auguste Ingres.

On the arrival of the Pilgrims at Plymouth in 1621 they adopted the Indian's method for light and used the pine knots, furnished in abundance by the virgin forests. No doubt the pitchy drippings of these knots were a source of discomfort to the cleanly housewife, and the candle when it came was greatly prized. Cattle were not introduced into the colony until about eleven years after the arrival of the "Mayflower," up to which time candles were unknown except when imported at rare intervals. Elliot translated the Bible by a spluttering, smoky torch. New England literature was spattered by the dripping flame and clouded, perhaps, by the odorous smoke.

There is a long step between the torch of the fathers, still in use at the opening of the nineteenth century, and the electric searchlight, of which it was the humble progenitor.

The forerunner of the street light was the basket torch, fastened to a building at a street corner, or later swung by a chain across the street. This basket filled with pitch pine knots made the place quite light. Such a basket, but of enormous proportions, was swung from a crane at the top of a high place in Boston, and gave the name to Beacon Hill.

In the year 1660 candle making became quite common with the pilgrim housewife. Tallow was not plenty, so the fat of the bear and deer was added to the tallow, increasing the light but softening the candle, making it less durable. The method usually employed was dipping, with a few molded candles for "company." To dip, a number of wicks were placed upon the sticks a sufficient distance apart, the wick suspended vertically. These wicks were dipped or carefully lowered into a pot of hot tallow on a cold day. Tallow would adhere and quickly cool. This repeated until the proper size was reached secured the "taller dip" of the "mothers."

Not alone was the oil from the sperm whale used as an illuminant, but the fatty substance which gives the name to the fish was discovered to be most excellent for candles, being more costly, but of greater power. Inclosed in little square lanterns "spermaceti" candles lighted the streets of Boston, were suspended over the front doors of the wealthy, and adorned the front halls of elegant mansions. That which gave happiness to the young eyes of "Dorothy Q.," the grandmother of the genial "Autocrat of the Breakfast Table," is still in existence.

Not until about 1830 did our fathers have a match to carry in their pocket. Up to that time they must light their pipe with an ember or by the tinder box. Should the fire of the hearth go out he must revive it by steel and flint or make a hurried trip to the neighbor's to secure his fire. At an early hour on a cold morning this was no pastime.

In the early days of the last century, Sir Walter Scott, writing from London, to a friend in Edinburgh, said: "There is a fool here who is trying to light the city with smoke."

Sir Walter's "smoke" was not a human invention. It was a product of nature's laboratory. Accumulations of gas from coal beds found their way to the surface, and being highly inflammable attracted the attention of men who erected altars over them, and their perpetual fires were dedicated to the gods. After the defeat of the Persian armies at Platea, two victorious generals,

Pausanius and Aristides, were directed by the Oracle to build an altar to Jupiter, and to offer no sacrifice thereon until they had extinguished every altar fire in the country, polluted by the Persians, and had relighted them with the sacred fire from Delphi. It would be natural to expect men of science to imitate a process of nature which held such promise. For thousands of years the Chinese have speculated upon the meaning of the natural gas which has escaped abundantly from the earth in several provinces.

In 1726 Dr. Hales informed chemists that by distilling a few grains of coal, he had obtained an equal number of cubic inches of "inflammable air," and that, if attempted on a large scale millions upon millions of cubic feet of that valuable substance could be made, and conveyed unseen along the highways of the land, and become the means for obtaining perpetual day. In 1813 Sir Walter's "smoke" was burned on Westminster Bridge in London, and one year later the streets of St. Margarets, Westminster, enjoyed illumination from gas, it being the first parish contracting for such a luxury.

The common kerosene lamp, with its chimney of glass, its varied forms of beauty, its shades modified to every grade of vision and of taste, suggests the relation of man to light. The oil, natural, cheap, brilliant, and volatile, was long known to civilized humanity as a crude outflow from the earth. It was not until about 1845 that the iridescent scum seen floating on the surface of a stream near Pittsburg suggested to thoughtful men to dig for a greater supply. Indians came from a distance and soaked it from the water with their blankets which they wrung out into vessels in order to secure a quantity for some secret purpose. When the American found it he was rich beyond computation, at the same time providing at a small cost the best fuel and the cheapest light for the common people. It was not until 1860 that it passed into common use. Since that time it has driven every form of wax, grease, fluid, camphene, and whale-oil lamps from the common use of mankind.

From the clouds overhead, lowering along the horizon as the sun goes down, Franklin and Edison have drawn the electric fire and in our chambers darkness is unknown. All the way from the pine knot to a nightless day has been won from the darkness in the lifetime of one man and he but just reaching the century point.

This is the Age of Light.

—Fred. Hovey Allen, in Scientific American.

Frayed Foote — There's one good thing about this "Packingtown" strike.

Plodding Pete—Wot's dat?

Frayed Foote — It's making soap scarce an' high priced.

Ceylon Cocoanut Oil Industry.

In the history of the cocoanut in Ceylon there are no records, so far as we can learn, of a great boom or a great reaction in the value of cocoanut property, such as have to be recorded in connection with coffee, cinchona, and tea. For present purposes we need not go further back than, say 1880, which gives us practically a quarter of a century to work upon. Up till the year 1885 cocoanut oil was shipped from Ceylon by sailing vessels to London and New York, shipments being almost entirely confined to these two ports. From 1885 oil for London was gradually diverted from sailing ships to steamers, but for years afterwards shipments for New York continued to go by sailing vessels only. Up till about 1890 London and New York controlled the oil market, but from that year it will be noticed that shipment to the Continent began to increase, no doubt due to the growth in regular steam communication between Ceylon and Continental ports; but the increase in the export of oil to the Continent is nothing when compared to the increase in the export of copra. On the Continent cocoanut oil as shipped from Ceylon comes into competition with oil made there from Manila, Java, Singapore, and other sources. During the past three years the competition to obtain Ceylon copra by Continental crushers has, it is said, acted adversely to our local oil industry. We have no figures to enable us to say how far this is true, but we believe prices of copra in Colombo, during the past eight years, have ruled higher proportionately than those of cocoanut oil. It would indeed be a serious matter if our local oil industry was to be crippled owing to Continental copra crushers being able to permanently pay more for our copra than the local oil mills. If the duty on cocoanut oil on the Continent is sufficient to allow of the crushers there paying high prices here for copra then the local industry does not stand in as enviable a position as we should wish it, and it might be necessary to consider the question of retaliation by an extra duty in Ceylon on Continental goods from those countries where there is a duty on cocanut oil. This view of the question appeals to us as we should be sorry to think our oil industry was likely to go down. We must, however, consider what is best for the islands generally. Has the Cocoanut Planter suffered or has he benefited by a proportionately higher export of his produce as copra in place of oil? From inquiries we conclude that the return to the estate has been much higher when there is a large export of copra. From the view therefore of the investor in cocoanut land a strong demand for copra for export appears desirable. The position therefore is as follows:—The local oil industry is curtailed, owing to the high prices paid for copra for export. This leads to a reduction in labour, employed locally in our oil mills, which we should regret to learn

was likely to be permanent, as it no doubt would materially reduce the return on capital invested in the oil mills. Against this we have the Cocoanut Planter receiving better returns owing to the increased export of copra. Whose interests call for first consideration? The proprietor of the estate or the local oil mills? If by an increased duty on our oil we could see prices of oil in Ceylon move up or down more proportionately to the supply and demand for copra, then there are many among us who would not object to Ceylon following a policy of retaliation. But whatever might be done, we should strongly object to any legislation which was at all likely to in any way depreciate the value of cocoanut properties. Has the strong demand for copra for the Continent during the past three years come to stay? Is it due to a temporary falling off in supplies of copra from other countries where the cocoanut has grown extensively? A spell of three years is a long time for the price of copra to have ruled, on the average exceptionally high, but by the close of this year the position generally will, we believe, be much clearer than it is just now.—CEYLON STANDARD.

The Use of Soaps.

Soap of one sort or another enters into the leather maker's economy much more than the ordinary layman would suppose. For years past the ordinary yellow variety has been used for making various sizes, compositions, &c.; in fact, practically all the leather finished on the flesh side (waxed leathers) owe a great part of their excellent appearance to ordinary soap in solution. Experience has shown that soap is a very useful "filler"—in other words, inherent to the natural fibre of the tanned leather. It is generally used in admixture with other easily soluble bodies, and a wax size will contain such ingredients as glue, soap, blue stone, Venice turpentine, shoemakers' heelballs, and a variety of materials depending upon the fancy of the size maker. These are usually added to a certain amount of greasy and oily matters such as beeswax, cod and linseed oil, &c., and a good deal of skill is necessary in the proper admixture of such incongruous ingredients. Generally speaking, soap is one of the most useful materials worked up by the currier, and large works, therefore, are pretty good customers of the soap maker. Since the introduction, however, of the popular chrome leather, a big business has been done in specially prepared soaps for the fat-liquoring purpose. As the ultimate result in chrome leathers depends to a large extent upon the proper sort of fat-liquoring given, it is obvious the chrome tanner when he finds he is using the right article is rather disinclined to change. In the early days of chrome tanning it was quite a common thing for tanners to get the whole of their supply of soap from America; British manufacturers have now, however, devoted a good deal of attention to this particular business, with the result that very little is now imported. It is generally used in the form of a weak emulsion, together with other emulsifying materials such as egg-yolk, neat's foot oil, &c., and if the leather is free from acid the whole of the emulsion should be absorbed.

Removing Stains.*

It is hardly necessary to say that stains should be treated as speedily as possible after their first appearance. When once dry they are more difficult to remove, requiring both time and perseverance. Paint should be instantly wiped off; grease on wood, stone or carpet should be congealed before it has time to penetrate, by throwing cold water over it. Tea, coffee, ink, wine, and fruit stains will disappear in a quarter of the time if they can be attended to while wet. Spots on colored material must not be rubbed, but dabbed over and over again until they disappear. Rubbing roughens the surface and often leaves a whitened circle almost as unsightly as the original stain. The dabbing is best done by covering a finger with an old handkerchief frequently changed, and great care should be taken to confine the operation to the area of the stain itself, and not to extend the damage by dampening and dabbing the surrounding material. In the treatment of stains, to know what you mean to do, and to do it quickly and neatly, is more than half the battle. We will take stains out on white washing material first.

For acids, tie up a bit of washing soda in the stained part, make a lather of soap and cold soft water, immerse the linen, and boil until the spot disappears.

For aniline, wet with acetic acid, apply diluted chloride of lime, and wash out carefully.

Apple and pear stains may be removed by soaking in paraffin for a few hours before washing.

Blood, if fresh, is removed by soaking for twelve hours in cold water, then washing in tepid water. If the mark remains, cover it with a paste made of cold water and starch, and expose to the sun for a day or two. Old stains require iodide of potassium diluted with four times its weight of water.

For coffee and chocolate, pour soft boiling water through the stains, and while wet hold in the fumes of burning sulphur.

Fruit stains can be treated in the same way if fresh, but if old rub them on both sides with yellow soap, cover quickly with cold-water starch, well rubbed in, and expose to sun and air for three or four days. Then rub off the mixture and repeat the process if necessary.

Grass stains are removed by alcohol.

* From the Western Druggist.

Ink requires milk for its removal; the spot should be soaked and gently rubbed. A fresh stain will disappear quickly, but an old one may need soaking in milk for twelve hours.

For iron mold, spread the stained part on a pewter plate set over a basin of boiling water, and rub the spots with bruised sorrel leaves, then wash the article in soft warm suds; or cover the spots with a paste made of lemon juice, salt, powdered starch and soft soap, and expose to the sunlight. Either process will be found effective.

Mildew can be removed by the above paste, or by simply wetting the spots, covering them with powdered chalk, and bleaching on the grass.

Paints must disappear before turpentine and perseverance.

Scorched linen can be restored if the threads are not injured. Peel, slice and extract the juice from two onions, add half a pint of vinegar, half an ounce of curd soap, two ounces of fullers' earth: boil these well, and, when cool, spread over the scorch: let it dry on, and then wash out the garment.

Tar stains can be taken off with petroleum.

Tea stains yield to the action of boiling water poured through them from a height, or to glycerin.

Wine stains, if old, treat like old fruit stains; if fresh, table salt spread over the spots while wet will neutralize the damage.

Stains of which the cause is unknown will frequently disappear if held in a pan of boiling water on the fire, or by dipping them in sour buttermilk and drying in the sun. The articles should then be washed in cold water, dried, and the process repeated several times in the day. The following bleaching liquid will effectually remove any trace that may still remain after the garments have been through the laundry. It may be called an instantaneous ink and stain-extractor, but requires to be used with care lest the fabric suffer. Put a quarter of a pound of chloride of lime and a quart of soft water in a wide-mouthed bottle and shake it well. Cork tightly for twenty-four hours, then strain through cotton, and add one teaspoonful of acetic acid to every ounce of the mixture. Damp the stain, apply the extractor, and wash well in clear, soft water.

For the removal of stains and spots from colored materials and carpets, ammonia takes the first place. Almost any mark, new or old, will yield to its persevering use, and if dabbed on (not rubbed) it will itself leave no trace of its use. It can be applied to woolens, cottons, and silks. It will remove ink spots from marble, paper, and wood. Grease flies before its application, and when diluted with water spots caused by orange or lemon juice or vinegar are removed by it from the most delicate materials. For very nice fabrics some people like to use the old-fashioned javelle water, to be obtained from the chemist, but ammonia, delicately applied, does quite as well. From carpets, curtains and suits of clothing it will remove almost every stain, including that caused by whitewash.

Ink spots are always the most difficult to efface. Take up as much of the ink as possible with a spoon and blotting-paper, and then use milk or clear water until it disappears, being careful not to extend the area of damage done by rubbing the ink into the adjacent material.

Benzin will remove paint from delicate fabrics; if it fails, turpentine must be used, and the mark which it leaves be effaced by alcohol. If in the process of removing stains the color departs from the material, it can generally be restored by dabbing with chloroform.

Canadian Tariff on Tanners' Soaps and Oils.

With the competition of their powerful American neighbors to meet, is it not natural the Canadian tanners are rather keen on getting their raw materials as cheaply as possible. The success of the Yankee in capturing the markets of the world with his light chrome leather has lately roused the ambition of the leather manufacturers of the Dominion, who are already trying to get a share of the British market in glace leathers. In this particular industry a great quantity of glycerine, soft soap, and neatsfoot oil are used, and representations have been made in influential quarters that it would be to the advantage of the Canadian tanner to get these materials placed on the free list. A Canadian authority, in discussing the proposal, says that soft soap is produced in Canada, but it is alleged that the quality is poor, although some appear to be satisfied with the native product. A trade journal expresses the opinion that there is no reason why a good brand of soap cannot be made in Canada, and perhaps it would be better to agitate for a first-class article rather than the abolition of duty in this case. The journal alluded to significantly adds that one Canadian industry has the same right to protection as another, and soap making is a Canadian industry.

"My wife sent $2 in answer to an advertisement of a sure method of getting rid of superfluous fat."

"And did she get the desired information?"

"Well, she got a reply telling her to sell it to the soap man."—Chicago Daily News.

Mrs. De Neat—It seems to me that, for a man who claims to deserve charity, you have a very red nose.

Moldy Miek—Yes, mum; the cheap soaps that us poor people use is very hard on the complexion, mum. —London Tit-Bits.

Appraiser's Decisions.

SYNTHETIC ESSENTIAL OILS FREE.

The Board of General Appraisers has sustained the protests in ten cases by Fritzsehe Bros. and in two cases by Ungerer & Co. against the classification of artificial oils of eassia, rose and jasmin as chemical compounds dutiable at 25 per cent. They are admitted free as essential oils. Eight cases covering importations of "oil of cassia, Schimmel & Co." and "oil of rose, artificial," by Fritzsche Bros. from July 9, 1903, and May 23, 1904, were the subject of one decision by the board. The merchandise in question was found to be identical with that which was the subject of previous decisions in favor of the same protestants in January and June of this year. The other ruling, based on protests by Fritzsehe Bros. and Ungerer & Co. on importations of artificial oils of rose and jasmin, cited the same authority for admitting the oil of rose free and quoted.

ALCOHOL TAXED IN ALCOHOLIC PERFUMERY.

The Board of General Appraisers has overruled the protest of Park & Tilford, of this city, on an importation of alcoholic perfumery. The decision was based on a previous ruling of April 6 last, in which the same firm was interested, and which covered practically the same points at issue. The appraiser, in ascertaining the market value of the goods in France, added the French general internal revenue tax imposed on alcohol contained in the merchandise as a part of the market value of the same. The importers claimed that this tax was improperly added and constituted no proper part of the dutiable value of the merchandise. This latter decision was based on a similar one made by the Circuit Court of the Southern District of New York on Dec. 14, 1903.

The Difference Between Firemen.

The man who shovels the coal into the furnace is the fellow who can increase or decrease the coal output of the boiler house. And yet how many plant owners neglect to take this fact into consideration. A recent test shows that different firemen working under the same conditions will produce different results. Four good stokers were put to fire the same boilers, all conditions being similar. There was a difference between the most and least expert of 23 per cent. in capacity and 18 per cent. in economy. All raw material from which there is no valuable by-product passes through the hands of the fireman. As a rule he does his best, that is, with a fluctuating load he draws a fairly straight line on a recording steam pressure chart. He knows that the less coal he throws on the less manual labor he is called upon to perform. Generally speaking, beyond that he has no incentive to economy, and provided he keeps a steady head of steam, is not interfered with. Yet he is the one who can affect economies. A pecuniary incentive is a great help toward reducing the coal bill. We understand that at some places a coal bonus has been introduced recently, which is divided among the four leading firemen and is distributed monthly.

Engineers now give much attention to the fact that the boiler efficiency depends a great deal upon the quality of the water used. While the subject of heating surface has always been of most importance in connection with boiler efficiency and while results have been obtained which are in every way satisfactory so far as they go, it is now becoming a question of still further enhancing the value of the locomotive boiler as a steam producer and the solution of the difficulty is supposed by many to lie ultimately, if not immediately, in the adoption of purified water. When hard water is evaporated the incrusting impurities are deposited upon the tubes of the boiler and the presence of a scale in a boiler is directly responsible for a marked diminution of its capacity for the rapid generation of steam. It also entails more labor to maintain the proper head of steam, and the boiler is generally less fit for service, and, at the same time, more expensive to operate than if it were kept free from scale. It is authoritatively stated that one-sixteenth of an inch of scale on the inside of a boiler necessitates the consumption of 12 per cent. more fuel to generate the same quantity of steam; one-fourth inch of scale means 38 per cent. more fuel; while if three-fourths of an inch of scale should be allowed to accumulate, it would entail a loss of 80 per cent. of fuel.—Exchange.

What He Got Out of It.

He never took a day of rest,
 He couldn't afford it;
He never had his trousers pressed,
 He couldn't afford it;
He never went away, care free,
To visit distant lands, to see
How fair a place this world might be,
 He couldn't afford it.
He never went to see a play,
 He couldn't afford it.
He left at last his heirs a lot,
But no tall shaft proclaims the spot
In which he lies—his children thought
 They couldn't afford it.

—Chicago Record-Herald.

Old Mother Hubbard
 Went to the cupboard
To get her old doggie a bone.
 But when she got there
 The cupboard was bare
And so the old doggie said:
 "Damn the meat strike."

—New York Sun.

PATENTS AND TRADE-MARKS.

The following list of recent Patents and Trade-Marks is reported by W. G. HENDERSON, Solicitor of American and Foreign Patents and Trade-Marks, Norris Bldg,, Washington, D. C. A copy of any of the following will be furnished by him for 15 cents.

PATENTS.

769,173 Soap-mold. Charles Landduth, assignor of two-thirds to G. C. Hunt and L. J. Mitchell, Chicago, Ill.

768,435 Candle. William Ehrhardt, assignor of nine-twentieths to W. C. Kroebel, North Bergen, N. J.

768,731 Mounting for soap samples. Robert Brown, Donaghmore, Ireland.

TRADE-MARKS.

43,179 Soap. Lanman & Kemp, New York, N. Y. The representation of a ribbon and a seal near each extremity of the ribbon and a trefoil figure on each seal similar to a fleur-de-lis.

43,199 Soap. Lanman & Kemp, New York, N. Y. The word "Saposana."

43,309 Soaps for the toilet and shampoo. Wesson Company, Jersey City, N. J., and Savannah, Ga. The word "Tarcura."

PRINTS.

1,049 Title: "Glycerine Tar Soap." (For Soap.) The Gray Lithograph Co., New York, N. J.

LABELS.

11,364 Title: "Kennedy's Union-Made Hand Soap." (For Soap.) William E. Kennedy, Washington, D. C.

AROUND THE SOAP FACTORIES.

News-items sent us by our readers will find prompt attention in this column

One would hardly think the "Independent Beef Co." an appropriate name for a soap factory. Still, according to official reports, this firm has been incorporated, with its office at Camden, N. J., and a capital of $100,000, for the purpose of "manufacturing and dealing in soaps, oils, etc." Its incorporators are named: Jos. F. Cotter, F. R. Hansell, and Geo. H. B. Martin.

Dundas, Ont, is to have a soap factory. Mr. Phillips, promoter of the enterprise, has already rented suitable quarters "More anon."

Papers incorporating the Kayser Soap Co., of Buffalo, N. Y., have been filed. The company is capitalized at $50,000. The directors are Adolf Kayser, Adolph Gieseeke and Frank G. Leary.

Manchester, Conn., Sept. 17.—The J. T Robertson Soap Co. has made arrangements to erect a three-story brick building on Oakland street. The building will be erected on the site of their old factory, which was destroyed by fire a few years ago. It will be of heavy mill construction and must be completed by Jan. 1. The plans call for a building 100x40 feet. to be three stories high.

The Robertson Co. is one of the most valuable industries of the town. This concern has been manufacturing soaps here for several years and has been giving work to upwards of 100 employes. John T. Robertson of this place is the president of the company. Mr. Robertson says his company is rushed with business at the present time.

Toronto, Ont., Sept. 14.—The Purity Mfg. Co. has applied for a permit to erect a soap factory at Brock and Florence streets, near the G. T. R. tracks. The application is supported by a petition signed by 140 property owners in the vicinity.

Danville, Ill., Sept. 2.—The Magic soap factory of this city has been sold by Valentine Peyton to Claude W. Bandy and Roy B. Phillips. The newcomers took possession of the property Thursday.

The factory is located on South Vermilion street and is one of the big industries of Danville. It has a capacity of 1,500 boxes of soap monthly, besides a great amount of laundry chip soap that is put out. Its product is handled extensively by all leading jobbers of Illinois, Indiana, Missouri, Iowa and Ohio. The factory has three extensive buildings and is equipped with modern machinery for soap manufacture.

Messrs. Bandy and Phillips are well-known young business men of this city and capable of conducting the affairs of the big plant. Mr. Bandy, after a college course, returned to Danville and engaged in the automobile business with Earl Chambers. Mr. Phillips for the past three years has been bill clerk at the Peyton-Palmer wholesale establishment.

Mr. Stephen Enderle will be the practical soap maker of the firm, we have heard.

Incorporated: The Perkins Soap Co., New York City.—Objects, to manufacture and deal in soap; capital, $30,000. Incorporators and directors for the first year: E. A. Perkins, A. J. Perkins, J. T. Horgan, Brooklyn.

Logan, Ohio, Sept. 16.—W. B. Gray, president of the Ermine Soap Co., was arrested and placed in jail this evening on a warrant sworn out by A. A. Clark, charging him with the embezzlement of $1,300.

The Bon Ami Soap Co., of Manchester, Conn., is reported by a local paper as "operating its feldspar grinding department day and night." This, we believe, is rather unusual for soap factories, and therefore a record-breaker.

The Textile Soap Co., of Bennington and North Adams, Mass., has just filed incorporation papers. It will conduct the business of making soaps and similar products in North Adams, Mass. Its capital is $20,000. The officers are Guy M. Farnsworth, of Bennington, president; John Robinson, of Bennington, vice-president; A. Rustan, of North Adams, treasurer; Arthur Hunt, of North Adams, secretary. The stock is divided into shares of $100 each.

Eugene, Ore., Sept. 7.—The Eugene Soap Works, owned by O. L. Bowder, were closed down by the sheriff yesterday, on an attachment by the First National Bank of Eugene, which holds a promissory note against the proprietor.

The Electric Volt Soap Co., of Washington, D. C., has been chartered. The incorporators are G. E. Gerry, G. J. Dittman and Edmund Brand.

The Syracuse Rendering Co. of Syracuse, N. Y., is making extensive enlargements to its plant.

The Taylor Mfg. Co., cotton oil makers at Columbus, Ga., are expecting to add a soap manufacturing plant to their mill.

Illinois Rendering and Incinerating Company, of Chicago, Ill., has been chartered. The capital is $20,000. The incorporators are James F. Austin, Henry Brinkman and William H. Brinkman.

Akron, Ohio, is reported as preparing the way for a new soap factory in that city. The details are not given out. That's all we know about it.

Louisville, Ky., Sept. 9.—F. C, Walter, Frank, Ernest and Herbert Bellis, of the firm of Bellis Bros. Pate Soap Co., who were arrested yesterday on a warrant sworn out by Roscoe Searcy, charging them with robbery, were dismissed after a hearing in the Police Court this morning. Searcy was represented by James P. Edwards. Allen Kinney appeared for the Bellis Bros.

In the warrant Searcy claimed the men traded a wind-broken horse to him for a sound horse, agreeing to pay him $80 in money. He had previously sold them the wind-broken horse for $50, and the sound horse belonged to Joe Staebler, the trader. He claimed the deal was consummated in Bellis Bros.' office, and he was paid the $80 in cash, but the money was subsequently taken from him by one of the brothers.

The evidence showed that Searcy, in direct contradiction to his allegation, had agreed to sell the horse for $80 and accept a wind-broken horse in the trade for $50. The Bellis Bros. proved that they paid Searcy $30 and gave him the wind-broken horse, and that he subsequently repudiated the transaction, because, as he said, Staebler was not satisfied. The preponderance of evidence showed Searcy, instead of being robbed, threw the 30 check on the office floor and demanded the sound horse, which the Bellis Bros. refused to give up.

Mr. Edwards admitted the evidence did not bear out his client's charge of robbery, but contended that the defendants were guilty of grand larceny and asked that they be held to the grand jury.

Judge McCann, in dismissing the defendants, intimated that the tricky incident to the transaction emanated from the other side. The Bellis brothers are prominent business men and well respected.

C. K. Williams & Co., of Easton, Pa., occupy quite a unique position among the firms selling to soap manufacturers. For twenty-one years they have been manufacturing talc and selling it to the soap trade. Other firms have come and gone, but this firm's product has endured by virtue of its merits and increased its reputation, so that their capacity has been increased and new machinery has been added as often as was possible, or necessary, to keep the plant in line with the latest progress. They have recently contracted for an elaborate electrical outfit, water power generating the current for operating their motors, twelve or fifteen of which will be installed in even a single one of their several plants. This is only one illustration of their determination to keep at the head of the list of producers of talc. They have still other facilities for increasing their capacity as rapidly as needed, and they can assure prompt delivery of whatever quantities of talc any customer may require.

The Joliet Soap and Manufacturing Company, of Joliet, Ill., has been organized to make fertilizers and soap. The capital is $3,500. The incorporators are William D. Wharrie, Frank Rittenhouse and William H. Saunders.

The Procter & Gamble plant at Armourdale, Kans., is expected to be ready for operations some time in October.

BERKELEY, September 3.—Through the bursting of a cylinder head in an engine in the Standard today, Adam S. Dean, who has been an engineer in the place for the last eighteen years, was fearfully injured by escaping steam.

Dean was painfully burned about the face and his right hand and arm were badly injured. He was removed to his home at 2321 Sixth street. It will be some time before he will be able to be out.

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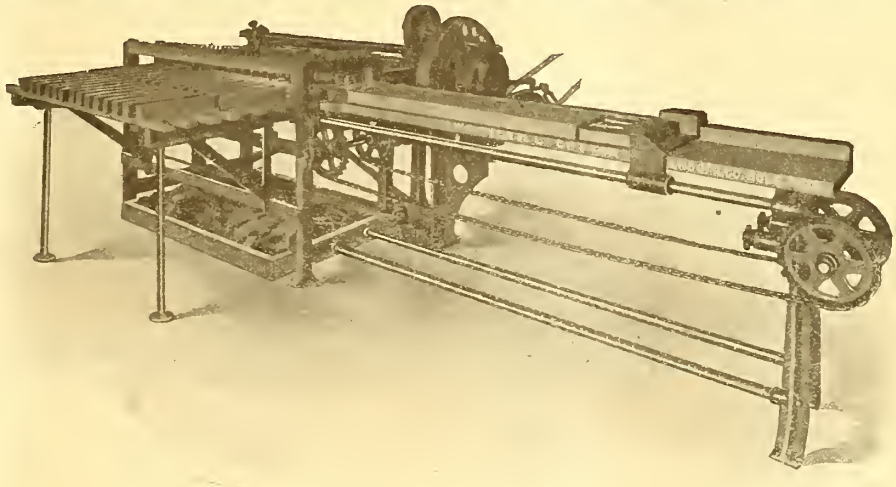
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BRANDS OF SOAP MANUFACTURED IN THE UNITED STATES
Including also the Brands of Foreign Manufacture Registered as Trade-Marks in this Country.

NOTE: This list is compiled with the greatest possible care, but the publisher does not assume any responsibility othe r than to correct and to complete the list according to data obtained from official sources or furnished by the trade. Brands registered in the patent office as trade-marks or labels are given with the name of the party registering same. Brands or names marked * are those which were found to be used by more than one firm or the owner of which could not be ascertained. ☞ SEE THAT ALL YOUR BRANDS ARE ENTERED IN YOUR NAME.

3 Liberty Mfg. Co., Chicago.
113 Puck Manufacturing Co., Des Moines, Iowa.
344 Home Soap Co., N.Y.
345 Columbia Ref'g. & M'f'g Co. Ltd , New Orleans.
346 Beaumont Soap Co., Mayfield, Ky
347 Lockwood Soap Co., Kansas City, Mo.
348 Oklahoma Soap & Oil Co., Oklahoma City.
349 M. F. Windsor Soap Co , East Buffalo, N. Y.
350 Florida Cotton Oil Co., Jacksonville, Fla.
351 Brown Soap Co., Daytou, Ohio.
353 Southern Soap Co., Birmingham, Ala.
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355 Palami Co., Boston, Mass.

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A MONTHLY JOURNAL OF THE MANUFACTURING CHEMICAL INDUSTRIES.

DR. HENRY GATHMANN, PUBLISHER. 2707 North Ave, Milwaukee. **MILWAUKEE, WIS., November 1, 1904.** VOL. XV. No. 3.

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THE AMERICAN SOAP JOURNAL AND MANUFACTURING CHEMIST is devoted to the interests of all manufacturing industries of a chemical character, and is an absolutely independent publication. It is the only newspaper of its kind in America and has also a large foreign circulation.

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Readers in search of machinery, supplies etc., not advertised in these columns, are invited to write us and we shall endeavor to supply the information.

Address all communications to

DR. HENRY GATHMANN, Publisher,
2707 NORTH AVENUE,
MILWAUKEE, WIS., U. S. A.

The hypodermic injection of one per cent soap solution has been recommended as a beneficial treatment in cases of inoperable cancer, and details of such a case were recently published in the "Journal of the Royal Army Medical Corps." It is claimed that a man 58 years old, suffering from cancer (of the tongue) that had become too extensive for operation, was greatly relieved by such injections, starting with five drops and increasing the dose by five drops every day, till the full dose of 60 drops was reached. The theory of the process is that deficiency of natural soap in the biliary secretion of the patient caused changes in the living cells leading eventually to cancer.

Theories relating to cancer have been but too numerous, and no treatment short of surgical measures has so far been devised that has stood the test of time and practice. If anything whatever could be devised to successfully treat cancer in most cases, it would be a grand achievement, and if it should really happen to be soap that shall become the means of accomplishing so wonderful a result, it would be a matter of much additional gratification.

Norfolk, Va., the center of the peanut market, is to have a trade paper, known as the American Nut Journal, devoted to the interests of those engaged in the business of cultivating, cleaning and marketing peanuts and other edible nuts and the products thereof.

The publication office of the paper, which is now published as the Trade Journal, at Petersburg, Va., is to be removed to Norfolk in the near future.

The "modest" violet has set one of our foreign exchanges to soliloquizing, thusly: It takes 33,000 lbs. of violets to make one pound of violet essence; at 30 cents a pound, and adding cost of apparatus and labor, no wonder the "modest" violet exacts over $125,000 for one liter (say 2 lbs.) of its precious essence. Accordingly, it appears, modesty is the best policy.

Cheap American toilet soap is said to be in demand in Ceylon. With its wealth in cocoanut oil at home, it is lye that ought to be in demand instead of cheap soap.

William S. L. Hawkins, agent of the Fisk soap works of Springfield, Mass., says reciprocity with Canada would make a difference with the business of that con-

cern. He said relative to the matter: "Formerly we had many customers in Canada, but with a duty amounting to about a cent a pound on the kind of goods we sent there, we have lost all our Canadian trade. One good customer remained with us long after the others, but with the duty, more advantageous rates could be offered by the Canadian manufacturers, and this customer was finally obliged to leave us. With reciprocity our goods could again find a market in Canada. I have been told by former customers in Canada that under present conditions they can buy soap in Italy and have it delivered on the dock at Montreal cheaper than it can be delivered from Springfield."

In the June issue of the Soap Journal we made mention that the empress of Russia had ordered from A. M. Shukoff, of St. Petersburg, 300,000 cakes of soap for the Russian soldiers at the seat of war, and that Mr. Shukoff had added 60,000 cakes to the empress' order as his donation for the same purpose.

Mr. Shukoff had the kindness to send us two cakes of this soap, and we in turn sent one of them to Melzer Bros., knowing their hobby for collecting specimens of rare foreign and domestic soaps. It seems the Messrs. Melzer share the kindly feeling of the majority of American people towards the Japanese, and to express their sympathy, and to offset the donation of the Russian soap manufacturer to the Russian soldiers, they wrote a letter to the Japanese minister in Washington, offering to present to the Japanese government 250,000 cakes (about two car loads) of a special milled toilet soap for use of the Japanese soldiers in Manchuria. After some delay, Melzer Bros. received a very polite letter from the minister, stating that he had at once telegraphed to Japan, and had now received an answer to the effect that the authorities wish to express their appreciation of the kindly sentiment that prompted the proposal of so generous a donation, but, being already in possession of a sufficient quantity of toilet soap for the use of the soldiers in Manchuria, they must decline the offer, etc., etc.

This rejection of their well-meant donation for the benefit of the Japanese soldiers in the field, was a surprise and disappointment to Melzer Bros., but it seems to be quite in line with the peculiar policy of the Japanese in declining generally all assistance and concern in their affairs, as for instance their rejection of the services tendered by that eminent surgeon, Dr. Senn, and the exclusion or restrictions imposed on the newspaper correspondents, which has caused many of them to return home in disgust. It seems the Japanese are a peculiar people, with ways of thinking and of doing things quite the reverse to our own. But not alone the Japanese are doing the unexpected and are springing surprises on us; the Russians likewise act very strange, as witness the recent North Sea incident.

There are still, from time to time, enquiries reaching us as to what our "charge" is for entering soap brands on our list. There is not of course, and there never was a charge made by us for this. But it seems a little out of order that, at this late date, we must still spend our postage telling people that our service is free.

Also every month some firm or other asks us if we know a soapmaker for them; at the same time they perhaps advertise for a soapmaker. But they often fail to write those soapmakers who at the time are advertising in our paper for a position!

Similarly we notice that, although several firms advertised for soapmakers recently, they received but few replies from the soapmakers advertising for positions!

Each apparently is waiting for the other to write first.

Consult our "Wanted" page, gentlemen, and "get together."

Last month we published a reply from Italy to one of the questions asked some time ago, by a subscriber of the American Soap Journal.

In this issue we publish another reply to the same question, this time from Queensland.

Surely the followers of few pursuits in all parts of the world are in such close contact with each other as are the readers of the American Soap Journal.

And to think that Australia exacts an import duty of one penny on each copy of this paper sent to our Australian subscribers! Surely any country ought to encourage rather than obstruct the acquisition of the best trade literature by its citizens.

FROM OUR CORRESPONDENTS

WHY IS IT?

Brisbane, Queensland, September 14, 1904.

The Editor Am. Soap Journal.

Dear Sir: Just a line from this end. A correspondent in the August number of your Journal, asks, why in the making settled soaps, the tallow is saponified first and the resin next?

The reason is that the ley which contains the glycerine is much better in color and does not contain the objectionable residue from the resin; consequently the subsequent treatment is facilitated and the resultant

glycerine will be a brighter color.

There may be other reasons—the above is my idea.

Yours sincerely,

M. P. CAMPBELL.

P. S.—You will see by the enclosed that your Journal is subject to 1 penny duty.

Malt-Extract Soap.

Dr. L. Sarason, a German physician, publishes in the medical press details of what he considers a new and useful idea in soapmaking. He experimented with a view to producing neutral soaps that should lather more freely than is common in such mild products, and more especially than do either the superfatted soaps so much recommended, or those containing lanolin. In the course of this trial he claims to have found the addition of malt extract to the finished soap to give splendid results. 10 per cent. of the extract is mixed in the neutral soap—with or without medication—and the slightly acid reaction of the extract will neutralize any possible excess of alkali that might still be contained in the soap. A soap so made is described as of unusual mildness and lathering qualities.

New Source of Palm Oil.

A small sample of palm nuts was received from the African Kontagora province recently. Palm kernels are already exported from Northern Nigeria, and in 1900-01 the exports of this commodity from the British Protectorate were valued at $15,000. It is possible that the direct trade in palm kernels might be increased, since large quantities of palm kernel meal and oil are now imported into England from Germany where these kernels are bought in enormous quantities for the expression of palm kernel oil and the manufacture of feeding stuffs.

Selling Soap vs. Advertising Soap.

Much of what occurs in the advertising world has its bed rock in the copying books of the advertising expert. It will interest our readers what advertising experts are doing to impress the man who pays the bill to believe in their theories. We have secured one of these copying books and will give letters from it without comment. The first one is on soap, the next on real estate, the third on office systems, etc. In reading these letters it must be considered that they are three to five years old. Of course we must omit names. (The National Advertiser):

* * * Referring to the matter of advertising your soap, I wish to state that I believe it an easy thing when one is familiar with the circulation and value of publications to map out a good plan for spending an appropriation of $100,000, but it is not quite so easy to answer the question:—

"How can the soap be sold by advertising?"

In order to do justice to the matter, one has to know a great deal about the details and circumstances; for instance, how long your soap has been on the market, whether it is well distributed throughout the country, whether it is sold through jobbers, whether the profit is such as to warrant giving the soap in consignment at such places as might be selected for extensive advertising. With a knowledge of these and a host of other particulars, it should be possible to make it pretty sure that the money spent in advertising will be a good investment, not an expense.

If the appropriation is limited, questionable methods of using it must be eliminated, all expenditures that are not pretty certain to pay should be avoided; for instance, I would advise that all expenses for so-called art work, artistic and half-tone cuts, etc., should be avoided, and type display employed in preference. To save space and expenses, I would use clever type composition, which could be made more conspicuous, and favorably contrasting with the numerous illustrated announcements so generally used nowadays. In selection of the media, great discretion should be used.

Among 1,000 readers of Scribner's Magazine, or the Century, for instance, there are probably fifty lawyers, 100 physicians, twenty-five newspaper men and a number of other classes that are users, but not buyers of soap, and possibly, but not at all likely, 150 such women who buy or supervise the purchase of soap for the home.

Housekeeping publications, on the other hand, are mostly read by such women who decide what kind of soap is to be used in the household, and even what kind of soap their husbands should use. There are some periodicals devoted to Health and Physical Culture in which it would pay well to advertise a soap like yours, the very fact of people being readers of such publication guaranteeing that they are interested in everything pertaining to health and cleanliness.

I do not mean by all this that the leading magazines are to be excluded, but I would advise that the appropriated amount be well distributed, and that not too much be put into the general magazines, at least not before the soap has made its way into the stores of dealers all over the country, even in the small villages. I believe a good portion of the appropriation should be devoted to printed matter. Many a good article has been introduced exclusively by the use of printed matter. Nowadays no up-to-date business man underestimates the value of booklets and circular matter, at least as suppliments to his newspaper advertising.

In printed booklets you have the advantage of telling your story as fully as you want, and you are able to go

into necessary details, which is not practicable in periodicals. Booklets can also be prepared in such a way that they will appeal particularly to the taste of women, and the strongest test of any form of advertising really is: "Does it Please the Women?"

The women are the buyers of the household, even what they do not buy directly is bought because of and through their influence, and this is one of the most important facts not to be treated lightly in advertising. Dainty booklets will be read and preserved by women, and woman is the most powerful factor in business, for she buys and influences to buy ninety per cent of all that is used in the family.

I would suggest the preparation of mailing lists to:—

(1) Well-rated retailers, general stores, grocers and druggists, also department stores, in all, about 10,000 throughout the country.

(2) Retailers of all ratings, about 10,000, in a few of the centrally located States, preferably in those States selected as the territory to be first taken care of and worked thoroughly, as well as by local newspapers.

(3) A list of jobbers, wholesale grocers, druggists' sundries houses, and those who buy in quantities and sell to the retailers throughout the States. This list, I believe, could be covered with about 5,000 names.

To the names under (1), I would prepare five different mailing cards each of which would contain some argument in favor of handling your soap, showing the profits to be realized and giving advice as to how to call the attention of their customers to this particular brand of soap, by displaying it in their show-windows in an attractive way, and by using the advertising matter which is liberally furnished by the manufacturer, inducing them to stock their store with the soap, because the manufacturer is preparing an elaborate advertising campaign, and no up-to-date merchant should turn away a customer by saying that he has not the article which is in demand—which is advertised.

To the names under (2) a circular enclosing a booklet is to be sent. In this booklet we will set up all the reasons which you have on the follow-up cards previously mentioned, and you should call particular attention that owing to the proximity of headquarters the freight is cheap and that they can quickly obtain goods. Eventually it would be a good idea to offer delivery of goods, charges prepaid.

To the list under (3), I would advise sending every month another circular treating the subject matter of co-operation between manufacturer and the wholesaler —the middleman question.

I would not neglect advertising in the trade journals, but would rather make a new departure in trade paper advertising, by giving in each issue of the leading trade papers a kind of a talk to the retailers, telling them how they can co-operate with the wholesaler and manufacturer to their advantage. The tenor of this trade paper advertising, however, for the first two months, should be the fact that an extensive advertising campaign is being prepared and that the dealer ought to have some of the goods on hand, and that he should write to headquarters for terms and the name of the nearest wholesaler carrying your soap in stock.

House to house distributing and mailing of circular matter, booklets, folders, mailing cards, etc., should be restricted to the certain territory which would be designated for thorough advertising, or to a few of the centrally located States from which your headquarters could easily be reached by mail overnight, and which are within a radius that would not prove prohibitive in sending goods by express.

With some modification it seems to me that the following distribution of an appropriation of $100,000 should be a good one:—

$15,000 for a few of the leading magazines.

$25,000 for household and ladies' publications.

$30,000 for daily papers, in a territory to be selected for a thorough campaign.

$10,000 for printed matter, circulars, envelopes, etc., including postage.

$5,000 for trade papers.

$5,000 for religious publications.

$5,000 for posters and street car advertising in the special territory above mentioned.

$2,500 for educational publications.

$2,500 for house to house distribution in all those cities covered by newspaper advertising.

If your soap is well introduced in the stores all over the country, it will pay well to put $10,000, or even more, in mail-order papers of the largest circulation.

As to working one State in a thorough manner, I would take, for instance, Pennsylvania. In that State there are about twenty wholesale druggists and about 4,000 retail drug firms. If we add to these about 3,000 well-rated grocers, and interest all these people to stock their shelves with your soap, you could then, by house to house distribution in a few cities in the State of Pennsylvania, and also by newspaper advertising in leading newspapers circulating practically exclusively within the boundary of the State, make a powerful and effective impression on the whole territory, and if this proves successful, you could extend this mode of advertising to other States. You could best decide upon the most advantageous territory to start with.

When one has an article to advertise which, for some reason or other cannot be generally introduced as, for instance, soap can, or a soap which, because the price is prohibitive or made in an unhandy form, or, because it is manufactured in an out-of-the-way place, where its progress is hampered by disadvantageous transportation, or an article for which the use is decreasing, one must

always realize that its advertising remains a gamble. Not so with the case of your soap; the article is right, and, as Liebig said, with the progress of civilization the use of soap will increase, the name is right, everybody can remember it, the price is right, its use is manifold; for the bath, shaving and toilet; the location of the manufacturer is central. With all these elements of success, practically the risk is eliminated, and there is no reason why the advertising cannot be made a pretty certain and a big success.

I do not claim that I am right in all my conclusions, but experience has taught me that advertising, no matter how well written, well placed, good selection of media, space bought under favorable terms and other advantages, will not assure success, unless it goes hand in hand with the interests of all concerned—manufacturer, jobber, retailer and consumer.

Your chances for success are greatly reduced unless you sell your article even in the villages. During the year thousands, yea, hundreds of thousands of your ads are lost. The aggregate copies of various publications in which you advertise, and which go to villages and hamlets, consume probably one-third of your entire advertising expediture. If, therefore, these people call on their next dealer for this soap and do not find it there, they will probably buy some other soap, and not in one out of ten cases will the dealer be induced by such a request for a piece of this soap to hunt up the manufacturer and order the soap for his stock.

You, as manufacturer, must stock the dealers all over the country with soap, even if you have to give it on consignment; the advertising will move the wares and increase, as it does, the consumption. When once introduced the manufacturer can command better prices, and the dealer does not want any extraordinarily favorable terms as long as the goods are in demand. * *

Trade-Mark Infringement.

In the case of G. W. Cole & Co. vs. the American Cement & Oil Co. seeking to have the latter enjoined from selling an oil claimed to infringe the plaintiff's product the Circuit Court of Appeals gave the following interesting and instructive definition:—

Unfair competition in distinguishing from infringement of a trade-mark, in that it does not necessarily involve the question of the exclusive right of another to the use of the name, symbol or device copied or imitated. A word may be purely generic or descriptive, and so not capable of becoming an arbitrary trade-mark and yet there may be an unfair use of it which will constitute unfair competition.

The fact that a defendant which had been engaged in the manufacture and sale of oil in bottles for twenty years adopted for a new product a label wholly distinctive from those previously used is no evidence of a fraudulent intention to compete unfairly with complainant, which had been placed on the market a similar article, where its prior labels were also distinctive from each other, and the new product was different in quality from any it had previously made.

The law of unfair competition seeks only to restrain fraudulent practices inducing confusion of goods and deception of the public, and it cannot be used to prevent a defendant from adopting a trade-mark or label intended to attract attention and popularize its product, although it results, and is intended to result, in better enabling it to compete with complainant, where no deception of confusion of goods is caused or intended thereby.

The fact that a defendant has been, and still is, a large purchaser of an article made by complainant as a jobber, does not create any trust relation between them which precludes it from placing on the market a competing article of its own manufacture.

That defendant issued a circular advertising an article of its manufacture to some extent similar to one issued by complainant, and inclosed in the cartons containing its goods, does not constitute unfair competition, where defendant's circulars are not so inclosed, and are sent only to jobbers ,and do not come into the hands of retail purchasers.

Naval Stores Matters.

The National Paint, Oil and Varnish Association held its annual meeting at Buffalo last month. Its committee on naval stores made a lengthy report from which the following is an abstract which we take from the full report in the Oil, Paint & Drug Reporter:

GENERAL TURPENTINE CROP.

From the closest calculations which we have been able to secure, it is generally estimated that the crop of spirits of turpentine for the present naval stores year, as far as reported, will be from 5 to 10 per cent. in excess of last year's crop, while, on the contrary, the domestic demand has not been equal to last year's.

RANGE OF PRICES.

The average market price of turpentine (as taken from the official postings for job lots at the primary port of Savannah) since our last meeting have been as follows:—

1903.	
October	56.18
November	56.08
December	56.08
1904.	
January	61.87
February	62.10

March	58.31
April	53.77
May	54.27
June	52.95
July	53.24
August	53.36

The exportations of turpentine from Jan. 1 this year to July 1, inclusive, were 8,773,195 gallons, as against 7,120,136 gallons for the same period last year, but foreign business—both for the United Kingdom and the Continent—is reported dull and stocks in excess London prices being out of line with prices at the primary ports. Notwithstanding this, prices are being well maintained, attributable by many to manipulation and threatened curtailment of production.

At a recent meeting of the Producers' Protective Association at Jacksonville, Fla. (Sept 14), representing some 600 producers (a possible majority of the turpentine farmers), resolutions were passed empowering a special committee to enter the Savannah market for the purpose of buying to sustain or advance prices at that port, and authorizing this committee to draw on the treasurer of the association for the necessary funds. And, we further understand that this committee has not been idle, but has actually made purchases on the Savannah market, dumping this turpentine into bulk storage tanks to be held until an opportune moment for unloading arrives, or until the holders become tired and throw their holdings upon the market, with an effect similar to the memorable "slump" in April, 1903, when the market broke 14 cents per gallon in one day's posting.

POSTING OF THE SAVANNAH OFFICIAL MARKET.

Your president referred to this committee an article clipped from the Oil, Paint and Drug Reporter questioning the fairness of the Savannah, Ga., official postings, of the naval stores market. I embody herein the following correspondence, which best reports the action of your committee in its investigation of this matter.

Your chairman called the attention of the president of the Savannah Board of Trade to this clipping in the following letter:—

Cincinnati, O., June 13, 1904.

Mr. John R. Young, President Savannah Board of Trade, Savannah, Ga.

Dear Sir:—As chairman of the naval stores committee of the National Paint, Oil and Varnish Association, the president of this association has addressed me the following communication, together with clipping which I enclose herewith. As you are doubtless quite familiar with the rules governing the posting of turpentine quotations at Savannah, I would be pleased to have you explain fully to me the rules governing such postings, that I in turn may make a full report to the Association above mentioned, at our annual meeting next October. Yours truly, W. M. BENT.

Chairman of Naval Stores Committee. National Oil, Paint and Varnish Association.

I beg to quote from the reply of President Young, as follows:—

Savannah, Ga., July 13, 1904.

Mr. W. M. Bent, Cincinnati, O.

Dear Sir:—Referring to the quotations of naval stores by the Savannah Board of Trade.

I have before me your letter asking for information as to the rules governing the posting of quotations upon our boards, and an explanation of them.

I have also submitted by you, a letter from Mr. J. M. Peters, of the National Paint and Varnish Association, calling your attention to an editorial article in the Oil, Paint and Drug Reporter on the subject, which is attached to his letter.

The following is a copy of the general rules governing the Quotation Committee:—

1st. Quotations shall be made from actual transactions between factors and buyers as posted daily on the boards.

2d. Offerings and bids shall not be considered unless sales are made and posted before the Quotation Committee at their sitting, have decided on the quotations.

3d. Factors are requested to report to the Board of Trade all sales.

The Quotation Committee is made up of two factors, or sellers, and two buyers, or exporters and brokers. Should they disagree, a fifth member, who can be agreed upon, is called in.

The appointment of the committee is made by the president, and they serve for sixty days, when a new committee is appointed.

There are two calls a day—one at eleven o'clock a. m. and four o'clock p. m. At these calls the Quotation Committee sits in open session, passes upon the sales reported upon the boards, and makes up the quotations, the prices and the tone.

The rules and the proceedings under them are so simple and fair that they scarcely need an explanation to one not familiar with the business—certainly no defense to any one.

The first section of the rules is to prevent factors from selling to each other, or buyers from buying from each other, and posting transactions for the sole purpose of fixing a market, and to require the committee to recognize transactions only between actual buyers so as to record a true condition of the market.

The second section of the rules is to prevent an unnatural and fictitious market by offering to sell blocks in excess of demands and stocks in order to depress, or to * * so as to record a true condition of the market.

The third section is to get full information of the actual and legitimate transactions of the day, as a guide for the committee.

The moving of stuff which has already been marketed at one port, to another port and offered for the purpose only of depressing values there, should not be allowed to affect values.

The Savannah Board of Trade, under rules and by the methods described, has made the market for naval stores, which has governed transactions in all markets of the world, for the past quarter of a century, and it is safe to say they have been uniformly fair and correct.

Yours very respectfully.

JOHN R. YOUNG.

President Savannah Board of Trade.

This ruling of the Board of Trade is at times disagreeable to the buyer, to the extent that it affects his interest and likewise to the seller, to the extent that his interests are affected, and yet, were postings of sales between buyers and exporters recognized, all sorts of fictitious transactions would be made, and likewise, were sales between sellers recognized, all sorts of prices could be posted. The ruling was made by the Board of Trade in justice to all concerned, as they saw it, and no fairer plan has yet been suggested for the protection of both buyer and seller.

Your committee beg to further explain that much dissatisfaction is caused from a lack of thorough understanding of the methods of Savannah postings of the market. In as few words as possible we explain: The market is posted at Savannah at 11 a. m. and 4 p. m. The bulk of the trading is after the 4 p. m. posting; for example, the market may have been posted 52 cents for spirits at 4 p. m., but some anxious buyer (after the 4 o'clock posting) buys at 52½ cents. This sale would not be posted until 11 o'clock a. m. the next day, while hundreds of other sales based on the Savannah closing basis would be made at 52 cents. On the contrary, the market may be "flat" and the holder turn loose, (after the 4 o'clock p. m. posting) at 51½ cents, when lots of other buyers, basing on this market, would buy at 52 cents—the official posting. In the long run, however, such irregularities are evened up.

The great shrinkage of receipts of naval stores at Savannah for the past several years makes the market at that port much more easy to control by manipulation—hence the increased number of complaints of unfair postings.

ROSIN.

The increased demand for this commodity has advanced the price out of proportion to the advance on spirits of turpentine, and while the farmer complains of his enchanced cost of timber land, scarcity of labor, additional cost of supplies, yet his profits have been enormous and he should be the last one to endeavour to disarrange the fixing of the market price by the law of supply and demand; nor do we think such efforts will be of more than temporary avail, as such movements usually come back like "boomerangs" on the heads of the instigators.

ADULTERATIONS.

At the last meeting of this association a resolution was offered by the New York Paint Club that the matter of a general enactment by the Government, making a uniform law in the States, for the protection of pure spirits, would be of immense advantage not only to the producers of pure spirits of turpentine, but to all dealers and consumers and parties interested in fair trade. This matter came before the Board of Control, and they recommended that it come before the convention and be referred to the incoming Committee on Legislation. On motion of Mr. Vial, duly seconded, the matter was referred to the incoming Committee on Legislation, and I trust that these gentlemen are in position to make full report on the present status of this enactment. It appears that some steps have been taken as in the Wall Street Journal of Jan. 20, 1904, there was the following paragraph:

LAW PREVENTING ADULTERATION.

"Washington.—The Senate Committee on Manufactures has favorably reported Senator McCumber's bill for preventing adulteration, misbranding and imitation of foods, beverages, candies, drugs and condiments, and for regulating interstate tariff therein. Mr. Hepburn, who reported the bill, will endeavor to secure its early consideration, and the probabilities of its passage are considered favorable. An important feature of the bill is that it proposes that the Agricultural Department shall exercise supervision to prevent the shipment of adulterated goods not only between the States of this country, but in the imports or exports to and from foreign countries."

Further, but not without considerable difficulty, your energetic secretary, Mr. Drake, procured for this committee the copy of "An Act for preventing the adulteration or misbranding of foods or drugs, and for regulating traffic therein, and for other purposes," which was reported by Mr. Hepburn before the House of Representatives March 5, 1904. Respectfully submitted,

W. M. Bent, Chairman.
C. W. Dill.
O. E. Webb.

The report was received with applause.

The President: Gentlemen, there being no specific recommendations in the report, it is submitted by the Board as a matter of information and without recommendation on its part.

Mr. Longstreth moved the report be accepted and filed.

Which was seconded.

Mr. Washburn: Every now and then we hear a report that the forests that yield the turpentine in the south are being used up and that the time will come shortly when the turpentine forests will be so scarce it will not yield turpentine necessary for consumption. I want to hear Mr. Bent on that subject.

Mr. Bent: Mr. President and Gentlemen. I don't know that I can say very much about that subject that has not been said a good many times before. There have been various estimates as to how long the long leaf yellow pine will last in this country because of the inroads made by large sawmills. The consumption of these mills seems to be in the increase each year. For the past two or three years it has been enormous. At present the lumber industry is somewhat dull. Notwithstanding that the forests in this country that produce turpentine are being decreased each year, and if kept up at the present rate of destruction there are various estimates as to how long they will be with us. It will certainly be twenty-five years before they will be completely consumed. This matter is now somewhat in the hands of the government, but I am afraid they have not sufficient authority to do much good. At the same time they are getting up statistics which are interesting, and these circulars can be had by any of the members or any one interested in the industry.

Mr. Watson: It might be well at this time to have any information anybody might have in regard to the use of wood turpentine. I remember at the last meeting interesting information was given to us in regard to the uses of wood turpentine. Another year has gone by, and I for one would be very glad, indeed, to know the experiences of anybody who has been experimenting or knows anything about the uses of this turpentine. It might be well to have that given here, if anybody has that information.

The President: Can any one present add to the information given last year?

Mr. Dill: So far as the manufacturers are concerned I will give you the benefit of the investigation into the producing of this turpentine. The manufacture of this article is in a small way and largely experimental. Most of the manufacturers shipped their goods to one particular party in New York City. On receipt of this information I investigated the party receiving it and found where he had received possibly five hundred barrels he still had on hand three hundred barrels. The difficulty with this article I found is the lack of uniformity. Most of the manufacturers are making it in a small way and the product will vary from the first few barrels that come out to the last few and will become darker. That is the reason the party had on hand a good deal of the stuff. They are constantly improving the methods and the one possibly the most successful at the present time is the steam process which produces a very fair looking article. I saw one shipment of fifty barrels by this process, out of which forty-four were passable so far as color was concerned. I have taken it up with a few varnish and paint men, but have found none who will say to me they have used this article successfully. So far as my personal opinion is concerned, I believe the day will come when wood turpentine will be a success, but at present I pronounce it a failure both financially and experimentally.

Another point. Mr. Bent remarked about pure turpentine and gave us the information that the lumber industry at the present time is dull. I find that is true, and as a result more force is at work in the turpentine. Of course, as is frequently remarked, between the lumbermen and the naval stores men, the forests have no chance at all, and I think the time is coming when we will have to get some substitute.

Mr. Rice: I was reading some days ago an article, the substance of which was, that in France whenever a turpentine tree is tapped another is required to be planted. It is too early for us to advise this being done in this country, but it is suggestive.

Mr. Bent: The thought has occurred to me repeatedly that really this association ought to show its appreciation of the steps taken and encourage further steps by the Department of Agriculture, under Government auspices. I think if some resolution were gotten up showing we are interested in the protection of the forests it would do a great deal of good. It is a matter that comes very forcibly to us, for before many years we will be forced into the position of doing something. Why not now make the burden a little lighter if possible? I think the Government would renew their efforts in the direction they have started had they the encouragement of such bodies of representative men as this association. If somebody would put that in the shape of a resolution I think it would do some good.

The President: A very wise suggestion it seems to me, gentlemen.

Mr. Andrews: While some one is putting this thought into the form of a resolution, I want to say undoubtedly there is considerable use being made at the present time of distilled turpentine. At a recent meeting of the Turpentine Association in the South, it developed there in discussion, that one of the things staring them in the face was the increased production of distilled turpentine. There are a number of stills in the South, possibly not producing large quantities now, but at the same time they find a market for what they will produce. You cannot buy it better than 10 per cent. below the price of regular turpentine. There are a number of people here who believe, to a greater

or less extent, in distilled turpentine, and they are all anxiously waiting for what the other fellow has to say.

Undoubtedly there is a depletion of the forests in the South, but there are plenty of places down there that have not been tapped. They are for sale and are producing turpentine to-day the same as they have been for years and years and years. I have been in this trade almost since I was born and it has been said the kauri fields of New Zealand would be depleted in a year or two, but they are still supplying it and a lot of it. And it is the same way with the turpentine. There is no doubt if it were not for the Turpentine Association in the South it would be selling for a less price. If we could get up a combination in the North, on the same close lines they have in the South, we would be getting turpentine at a much better price. (Applause.)

Mr. Dill: I wish to state that the party or parties who might be called the originators of this process have given up the manufacture of turpentine and have gone to manufacturing retorts and selling them.

Mr. Lawrence: Seriously, this question differs. The gentleman told us about using these several cars without detection, and he was surprised—he didn't say so in so many words—but what I want to say, gentlemen, there is a difference and you cannot get over it.

Mr. Wilson (of Cincinnati): I would like to propose a resolution on that subject:

Whereas, The Paint, Oil and Varnish Association in convention assembled, Oct. 11, 1904, looking into the future, sees the destruction of the turpentine forests and the eventually serious damage to the turpentine supply; therefore be it

Resolved, That is the sense of this convention that the Department of Agriculture should take those necessary steps which in its judgment will insure the protection of the forests and the saving of the turpentine supply.

The President: The question before the house is the adoption of the report of the Committee on Naval Stores, which is submitted by the Board of Control as a matter of information and without recommendation.

The motion to adopt the report was agreed to.

Mr. Wilson: I move the resolution just read be referred to the Board of Control for action.

The motion was seconded.

Mr. Cheeseman: I want to make an amendment in the wording of the resolution. I think we ought to thank the Department of Agriculture for what they have done. We don't recognize they have done anything. They have, and I want to change it to read—

Be it Resolved, Our Secretary write the Secretary of the Department of Agriculture, thanking him for the steps he has already taken toward preserving the turpentine forests and urging the necessity of increased effort in that direction, pledging our support and co-operation to further advancement along these lines.

Mr. Watson: I do not understand it is necessary for this resolution to go before the Board of Control. I do not know why we cannot act upon it now.

The President: The matter is before you for action.

Mr. Wilson accepted the amendment of Mr. Cheeseman, and moved the resolution be adopted, which was seconded and agreed to.

A resolution from the delegates of the Paint and Oil Club of New England was read by Mr. Gould on the subject of the high price of turpentine and rosin, and was referred to the Board of Control for their action.

Mr. Washburn: It seems to me that subject was answered in the report made by Mr. Bent.

Friendship In Business.

No matter in what direction we look, the day of favors asked, for convenience sake, and granted, as a matter of business policy, seems to be passing. With it goes unmourned a species of dependence frequently tolerated but scarcely ever really justified. In its place there comes a new sense of obligation, chiefly but not altogether financial, which strengthens business organization as a whole, quickens all legitimate movements and furnishes an adequate basis for intelligent forecasts and confident operations. The wheels of trade are simply refusing any longer to hold the lingering debris that clung to them when the free play of conditins was less pronounced than it is today.

The trouble with the old-time procedure was that the favor requested was usually deliberated by its author as a means to an end. In a way it took advantage of the other party (ordinarily the creditor), placing him in a situation difficult to refuse without actual or implied prejudice to future relations. It was probably seldom or never reasoned out that the inconveniences caused by compliance with such request might—in a collective sense at least—exceed the convenience saved by its reluctant granting. As such it would very often carry with it a sort of deadlock, and become a menace to enterprise, or even to solvency, calling for a new plane of understanding and action to eliminate altogether or at least to rob of its more serious effects.

Many think it the duty of their friends and acquaintances—often taking these relations for granted on the slenderest of foundations—to give them what others must pay for. Whether business service or material help, this mistaken idea is entertained by plenty of men and women who are probably shocked by any contact with the contrary opinion. And yet a man goes into business to make a living, and there is no moral or reasonable expectation for business concessions on the score of friendship. To seek this is, in fact, not so

much "friendship" as 'imposition." Outside and irrelevant considerations have less and less effect upon the largest volume of business nowadays; while independence seems to be more and more established as a requirement of success and prosperity.

A CHANGE OF SENTIMENT.

Time was when a traveling salesman was worth so many dollars for his ability to make sales; and so many more dollars for the standing he had with a certain clientage on account of his being a "good fellow." But today the best managers base their rate of compensation strictly upon a man's ability to make sales to the kind of customers they want. The disallowance of 'entertainment expenses" by many prominent commercial houses—more recently by the western railroads as regards their freight solicitors—is significant of the change of sentiment in this respect.

Because a man, or firm, happens to be located in a certain place imposes no obligation upon others in the territory tributary to that point to patronize such a party. People who hold to a contrary opinion arrive at it by a course of reasoning backward, which inverts the true order of both the premises and the conclusion. The fallacious logic leading to such a belief has been used times without number to boom "home patronage" campaigns and the like. Hard work and persistent talking and writing have not infrequently resulted in the formation of a sort of pseudo-enthusiasm for favoring certain industries and localities which, however, is neither sincere nor lasting. In the end trade relations come back to right principles, and are conducted along lines based upon good and wholesome laws.

In our rounds of the trade we frequently hear of launderers who have accommodated people whom they thought were their friends, with especially low figures—hotels, restaurants, etc., very often—believing that such considerations would be appreciated. They are apt to find out later on, however, that a rival's offer to cut under a trifle has taken away the business thought to be well protected by the methods pursued. Then, if not before, they realize that any concession of this kind is considered valuable by most people only as it serves as an opening wedge to a still greater concession. Appreciation, in practice, doesn't amount to much. There is no way to remedy this evil except to make and keep absolutely uniform prices to all, for the same grade of work and the same service, with terms held on close, thoroughly understood lines.

DIFFERENT KINDS OF FAVORS.

The higher up one follows the phantom, "Favor," the more elusive it is. The launderer unable to pay his maturing bills should rather seek financial assistance at his bank or elsewhere, than try make one 'extension" after another with his creditors. The next step is, or ought to be, to carry into practice with his own trade the lesson he has learned so effectively in his own experience. Very likely he begins to see that, after all, it is only reasonable. If well handled, too, his own trade responds, and he finds himself better off through the strengthening of his own backbone. The real danger lies in what a successful launderer recently referred to as a "jelly vertebra."

Volunteered favors are quite another matter, and it is safe to say that they will always figure to some extent in any great trade run on right principles. Loss by fire, death or other calamity—intelligence of which can be trusted to get around in these days of multiplied sources of information—very often gain for the sufferer a consideration doubly valuable because voluntary. With all traces of imposition-on-good-nature gone, there is some room for the display of genuine consideration, of which the books of every large, enterprising concern must bear ample witness. As the financial value of personal acquaintance, per se, diminishes, the routine of prompt returns is appreciated, while the ample results of business make large, liberal plans possible, distributing their benefits all along the line.

Concessions in price, service and the like are readily granted, whenever possible, by concerns to those who are plainly factors in their prosperity. But there is less need for undue sensitiveness in turning down unreasonable requests for favors, and less willingness to accept dictation or imposition of any sort. There is certainly no excuse for making sacrifice through any such channel as this. Every great trade is better off on account of what seems to be a fixed tendency in this direction.

PROFIT A NATURAL RIGHT.

No person endowed with a reasonable common sense will deny that a man in business—be his sphere of operation limited or extensive—is entitled to a fair and reasonable margin of profit in all his dealings. Without straining after exact definitions, it may be said in general that a safe profit should provide for or cover the following items or their equivalents:

1. A fair remuneration allowed to himself for his own services rendered in the management of the business. Such services are certainly entitled to the compensation he could command as manager for the same concern, but in the employ of others.

2. In addition, a sufficient amount, annually, to cover an average rate of interest upon the capital permanently invested in his enterprise.

3. The means wherewith to meet the reasonable expenses of carrying on the business.

4. He should also realize enough to provide for uncalculated expenses, such as may be occasioned by fire

or flood, by unavoidable bad debts and depreciation of values.

5 He is furthermore entitled, in equity, to an extra amount from year to year, a sort of sinking fund, to enable him, after long, hard and efficient service, to enjoy in security the fruit of his labors.

These rights and benefits are assured to the average launderer only by the constant and jealous guarding of his own interests. No outside aid can be depended upon to help him obtain what he cannot secure with the forces and resources immediately at his own command. The oft-heard expression of the launderer to the effect that he is "making a living," is not enough, and in most cases it it without excuse. Its utterance indexes a condition essentially an injustice to the man himself, to his family and dependents, but especially to the line of business in which he is engaged. If he is making nothing more than a living, others are in the same predicament; and ways and means are needed to uplift the whole level of things. Local organization is frequently the best method by which to secure this end.—National Laundry Journal.

Soap Trade of Zanzibar.

Soap is imported from Germany in bundles of four boxes, each containing six bars and weighing together 22 lbs. The price is 2 rupees 12 annas per case of the commoner quality: the better kind sells at the same price, but only weighs 18 lbs. per case of six bars. From America is obtained a soap in bundles of eight cases, each containing twelve bars, weighing together about 10 lbs. which sell at 33 rupees per twenty cases. From the Seychelles come bundles of six bars, weighing together 15 lbs., price 2 rupees 4 annas to 2 rupees 8 annas per bundle.

Origin of Perfumes.

Some historical particulars regarding the origin of perfumery appeared in a recent Bulletin of the French Chamber of Commerce at Constantinople, and were published in a recent issue of the National Druggist. The Bulletin states that perfumes were first used in religious rites in Egypt "by the burning of aromatic essences, the priests being the first perfumers. The Hebrews learned the art from the Egyptians, and practised it in their own country after the Exodus. The Greeians at the time of Solon and Socrates (and in spite of the railings of these philosophers) used perfumes; and the Romans were lavish users of fragrant scents. Perfumery came into general use in France during the Crusades. The Phœnicians and the Carthaginians were, however, the first purveyors of perfumes (as they were of most other merchandise) to the rest of the known world. During the Middle Ages the trade was primarily in the hands of the Arabians; following them came the Venetians and the Genoese. In France the master-glovers were the first perfumery merchants. This was due to the fact that they dealt in perfumed skins, imported for making purses, belts, girdles, doublets, and gloves, the perfumes being obtained from Spain and Italy. In 1713 the French glovers began to manufacture perfumed toilet-soap, but it was not until a century later that the manufacture of perfumery attained any great importance in France.

New Process of Extracting Olive Oil.

(From United States Consul Smith, Leghorn, Italy.)

Through the courtesy of Messrs. S. Rae & Co., of Leghorn, manufacturers and exporters of olive oil, I am enabled to submit the following report regarding a new process of extracting olive oil by chemical means. The olive growers of California appear, from what I can learn, to have taken up the business of olive-tree extraction seriously, and I hope that they will find something of value in the following description of the new process, which is translated from a report issued in pamphlet form by Prof. A. Funaro:

In the year 1890 a patent was taken out in France by A. Kuess (No. 291,559) for "A new method of extracting oil from olives and, in general, other vegetable oils, and also for dealing with the residues." The object aimed at was to extract all the oil present in a single operation, doing away altogether with the oil press and substituting a combined treatment by chemical agents and electricity. It was proposed to accomplish this result by crushing the olives in a mill, adding to the product an equal weight of a solution of alkaline carbonates at 3 deg. B. and then heating the mixture to 60 deg. C. (140 deg. F.). An emulsion would result, and when a strong solution of hot alum was added to it precipitation of the cellular and resinous substances present would ensue, while the oily particles, being set free, would rise to the surface. An electric current, passing through the tank during this operation, accelerated the process, it was claimed, and improved the product. The latter was nearly colorless and fit for food purposes. The residue, though almost completely deprived of any fatty matter, could by further treatment with a solution of lime and soda be made to yield a soap stock fit for industrial purposes.

At Monastir, Tunis, the center of a great olive-growing district, a factory was specially constructed for the purpose of applying this process to the making of olive oil.

Although the instructions contained in the patent were strictly adhered to, no practical result could be

obtained. The following year, at the same factory, this process was investigated by Prof. A. Funaro, in respect to the chemical part, and by Engineer C. Tanquerel, in regard to its technical aspect. After protracted trials had been made and many modifications introduced, success was obtained, so that during the oil season of 1901-2 some 5,000 kilograms (11,000 pounds) of olives were daily treated by this new method, with favorable results, in the opinion also of Professor Bertainchaud, director of the Central Chemical Laboratory of Tunis, who supervised the operations. For this modified process a patent was taken out in Italy in the year 1902, and also in Tunis, on behalf of the Sosiété Generale des Huiles d'Olives du Sud Tunisien de Monastir.

The crushing of the olives in the mill is protracted until a uniform fine pulp is obtained. The pulp is heaped up and the virgin oil which flows from it is collected. The pulp is then passed again through the mill, and afterward wet with a very dilute solution of carbonate of soda. It is then transferred to a large tank containing alkaline lye and heated to a temperature not exceeding 40 deg. C. (104 deg. F.). If this were exceeded saponification would be brought about. The contents of the tank are kept in agitation by means of a jet of compressed air (French patent 527, January, 1892). At the end of six hours the contents are allowed to settle, the olive pits, washed quite clean, falling to the bottom, while all the fatty matter and lighter particles of the pulp rise to the surface in a kind of emulsion. The olive pits and alkaline liquor being then withdrawn from the bottom of the tank, there is added to this emulsion a cold dilute solution of alum. The compound is again agitated by means of compressed air, and an electrical current is passed through it during some hours. It is then allowed to settle for a few hours.

The resinous matter present, combining with the alum, is precipitated, carrying with it all the solids, while the oil rises to the surface nearly free from extraneous matter and is rendered quite bright and limpid by filtering. The aluminous compound, which, as has been stated, falls to the bottom of the tank, contains not more than 4 to 5 parts in 100, by weight, of fatty matter, after evaporation of moisture. This small percentage can be recovered by the sulphide process, or if the residuum be heated up, after the addition of soda, soap stock is obtained.

In the practical working of this process the only difficulties lie in finding out the most favorable conditions—the proper concentration of the solutions, the proper temperature and degree of alkalinity or acidity, all of which entail frequent tests.

The oil obtained is of a pale straw color and has hardly any odor. It neither congeals nor solidifies so readily as olive oils made in the usual manner. It is neutral, that is to say, free from acids, and remains so for a year or longer, even when exposed to the air. It is without the flavor of fruit, more or less marked, which characterizes olive oils made in the usual way. This peculiarity has not prevented approval of such oil in the markets of the north of France, though it is difficult to say whether it would meet with favor in Italy.

The following results were obtained during the period of experimentation with the new process. The olives treated had the following composition: fatty matter, 26.85 per cent.; water 39.75 per cent.; cellular substance, 33.40 per cent. The yield of oil was 25.15 per cent. An additional 1 per cent. of oil was recovered after a short interval from the tank in which the residue had been allowed to rest after the treatment described.

Similar olives treated in the customary manner by crushing and pressing gave the following results: Oil obtained from the first and second pressings, 19.25 per cent.; oil obtained from depositing tanks (1 per cent.) and by washing (3.40 per cent.), 4.40 per cent.; total, 23.65 per cent. Similar trials conducted by Bertainchaud gave the following results: Oil from the pressings, 22.60 per cent.; washed oil, 1.20 per cent.; total, 23.80 per cent.

Twenty-five and nine-tenths per cent. of oil was obtained by the new process, which shows a superiority of 8 per cent. in its favor.

A further advantage of the new process is the reduction in working expenses due to the elimination of presses and pumps and of mats and bags, while there is also a saving in labor, since by a suitable arrangement of the tanks and vessels used operations can be conducted almost automatically, the solutions being made to flow from one tank into the other as required. At Monastir, where electricity was the motive power, when treating 5,000 kilograms (11,000 pounds) of olives daily, five laborers and one mechanic were found adequate.

The neutral character of the oil renders it well suited for mixing with other edible oils, while the almost total absence of acids makes it particularly adapted for industrial purposes. Hence the new process appears likely to meet with favor.

It is not suggested that it will ever be adopted in localities where the finer qualities of olive oil are produced, as in Tuscany, Liguria and Apulia, Italy, but in great centers of olive-oil production the advantages offered by this process should not be overlooked, as, for example, in Calabria and Sicily.

Even where the finest qualities of oil are produced, a combination of the older methods with this process might be resorted to with benefit. After the olives are

pressed in the usual manner and the oil is collected, the residues could be dealt with by this new process, whereby practically all the oil still remaining in them would be recovered in a single operation.

In reference to the foregoing, Messrs. Rae & Co., whose opinion, as that of a firm extensively engaged for many years in the olive oil business, is well worth consideration, make the following observations:

Samples have been submitted to us of olive oil obtained by this method in Tunis. We find that the oil has entirely lost the natural flavor of olive oil; it has acquired instead an unpleasant and, indeed, rather nauseous taste. While Tunis oil and all oils from olives grown in similar subtropical latitudes must of necessity rank low in the scale of quality, even when made with every care and from sound fruit, these samples show that the application of the new process will not introduce any improvement. Rather is it the other way.

The oil is, however, quite neutral; that is to say, almost entirely free from the natural acids present in olive oil made in the usual manner, by simply pressing the fruit. This quality may render the product of value for industrial purposes, but it is no recommendation in an olive oil intended for the table.

Professor Funaro himself perceives that this process would not lend itself to the production of the finest grades of olive oil, such as Tuscany is famed for, generally known under the denomination "Lucca oil." Olive oil of this description has a delicate flavor of its own, derived from the fruit. But the product obtained by means of the new process entirely loses these characteristics—a fact easily accounted for when it is considered that it entails the subjecting of the olive pulp to chemical reactions.

On the other hand, this process, it appears, may with advantage be applied to the olive residues; that is to say, to the residue of the pulp after the oil has been obtained by pressing. It is claimed that by it practically all of the oil remaining in the residue can be easily recovered at less cost and far more quickly than by the methods hitherto employed. Subject to these claims being verified, the new process might still prove advantageous to oil manufacturers, seeing that the residues as they leave the oil press still contain nearly 18 per cent. of the total quantity of oil originally contained in the fruit, and a rapid and economical recovery of this oil is a matter of considerable importance.

Soap and Candles In South Africa.

According to figures just published, the value of the soap and candles imported into the Orange River Colony during the nine months ending March, 1904, was £18,000, being £4,000 more than the import for the nine months ending March, 1903. The imports of the same class of goods into Cape Colony during the first four months of the present year were valued at £80,000, as compared with £84,000 worth imported in the same period of 1903.

Advertising Extraordinary.

A collector who can boom his employer's business and get money out of his employer's debtors at the same time must be a useful person. Honey on the lips goes well enough with a superannuated book account in the hand. Yet few men who have fought shy of a creditor care to hear his praises sounded as they reluctantly satisfy his claims. It is possible, however, to extort, from the reluctant, cash which is in deed and truth half the tribute, at least, to the cheerful genius of the extorter. The debtor who thus squares his account feels not only

"That ecstatic throb
which virtue's votary feels at the close of a well spent day."

He is also conscious of a glow of admiration for a man who can get money out of him and still leave him in good humor.

To each of the thousand or more small debtors on the books of a press clipping ageney, a series of dunning letters is now going out. The letters are mailed at regular intervals of a week. They are as follows:

I.

$4.99. New York.

Dear Sir: In the fall
Obligations fall due,
Which is why I recall,
In this neat billet-doux,
My bill, which is now of long standing,
I'll be glad of a check, sir, from you.
To John Smith,
Oshkosh.

II.

$4.99. New York.

Dear Sir: As I said,
In my last friendly note,
There are mouths to be fed,
There are burdens to tote.
Kindly mail me a check for your bill which
Is long due, as I recently wrote.
To John Smith,
Oshkosh.

III.

$4.99. New York.

Dear Sir: All good things
Are declared to be three,
The dying swan sings:
And I'm singing to thee

With a song still quite swan-like in softness,
Of the money you're long owing me.
To John Smith,
Oshkosh.

IV.

$4.99. New York.
Dear Sir: There's one way,
I may say, only one,
To check the mad play
That my muse has begun—
Just send me a check from your check book,
To square up your bill, and I'm done.
John Smith, Esq.,
Oshkosh.

V.

$4.99. New York.
Dear Sir: Oh, so dear—
At just two cents a time,
Do I make myself clear?
Have I wasted a dime?
If you don't send a check very quickly
I fear I shall run out of rhyme.
John Smith,
Oshkosh.

VI.

$4.99. New York.
Dear Sir: There are means
To make deaf people hear,—
A file of marines,
Or a sheriff; a mere
Bagatelle of four ninety-nine (just think!)
Will be your undoing, I fear!
John Smith,
Oshkosh.

VII.

$4.99. New York.
Dear Sir: Let us save
Just a bit from the wreck
Of our friendship; I gave
You some biffs in the neck—
But short accounts do make long friendships;
Come, close our account with a check.
John Smith,
Oshkosh.

He paid five dollars apiece for his dunning letters to a poet who has a card from the Magazine Poets' Union and is in good standing. Each letter, so far, has paid for itself scores of times over.—John Paul Bocock, in Fame.

A New Use for Soap.

A process for the separation of minerals and metals contained in ores, depending upon the affinity fatty matters liberated from soap have for the former has been patented by A. S. Cattermole (No. 17,109, 1903). Soap solution is mixed up with the crushed ore suspended in water and then sufficient acid is added to liberate the fatty and resinous matters of the soap to which sulphuretted minerals, sulphur, graphite, or free metals adhere, and can then be conveniently separated from the gangue or earthy matters.

A similar idea has also been made the subject of a patent (No. 20,021, 1903), in which J. Turner proposes to purify trade effluents by agitation with soap solutions; the soap is then decomposed with sulphuric acid or aluminum sulphate, so that the fatty matters set free carry down the impurities, and after standing for the deposit to settle the clear water can be run off.

How to Detect Bad Soap.

In the course of an article on "How to detect bad soap," Science Siftings says that the amount of suds made by a soap is one of the methods by which the presence of too much alkali is indicated. The more suds a soap makes in a comparatively short space of time, the more alkali it contains. A cheap soap will create a large quantity of suds without any trouble on the part of the operator whatever, whereas an "over-fat" soap has to be rubbed repeatedly before it manifests a disposition to make even little suds. The suds are caused by a chemical action in the water when the alkali mixes with it, and, as has been stated before, the over-fat soap, the good soap, forms an emulsion, and does not undergo much chemical change. Another way to determine the presence of alkali is to touch the piece of soap to the tongue. If there is much alkali in it the taste will be bitter, if there is no alkali there in harmful quantities no bitterness will be observable. Still another way, the most effective of all, is to drop a little sublimate of mercury in the piece of soap. The mercury will at once cause the alkali to assume a yellowish hue, and the more alkali in the soap the deeper this yellow color will be.

More About Ricin Soap.

Newburgh N. Y., August 9th, 1904.

To the Editor of THE DRUGGISTS CIRCULAR:

I was much interested in Mr. F. T. Gordon's article on the manufacture and uses of ricin soap in your last issue, but while not experienced in soapmaking it appeared to me that the amount of caustic soda given was out of proportion, to the quantity of oil. I have little time for experimental work at this season of the year but managed to-day to try the formula, with the result I had anticipated. I think 15 grams of caustic soda would be sufficient to saponify 100 grams of castor oil, while Mr. Gordon's formula calls for 75 grams.

Mr. Gordon further states that this formula is based upon the "molecular formulas of the alkali and the oil." I would like to know the molecular formula of castor oil.

F. WALLACE.

At the ime of the receipt of this communication Mr. Gordon was on his vacation. This accounts for the delay in the answer. Mr. Wallace is right about the proportions of oil and alkali required for neutralization. The 15 grams of soda was alright, but the quantity of oil taken in the original experiment was 500, and not 100 grams. In copying his notes the author reduced the quantity of the oil, but, by a clerical error, a like reduction in the amount of alcohol was not made.

As to the molecular formula for castor oil, Mr. Gordon says: "The formula of 'castor oil' was taken from the United States Dispensatory issued for the 1900 Pharmacopœia, the term 'castor oil' being used for convenience; actually the calculations were based upon the ricinoleic acid in the oil, as this is the only constituent necessary in making the soap. Most of the castor oil on the market now has very little of the fixed, solid oil in it (stated to be palmitic acid), this being removed in the process of refining. I speak only of the refined grades of castor oil, used medicinally, which I found to be mainly ricinoleic acid, as the crude oil does contain much of the above mentioned fatty acid. The other components of castor oil may be neglected, as they play a very small part in the saponification of the oil.

"The soap-forming element in castor oil is the glyceride of its ricinolice acid—glyceryltri-ricinoleate—formula $C_3 H_5 (C_{18} H_{34} O_3)$ or given by others as $C_3 H_5 (C_{18} H_{34} O_2)$ the molecular weight of the first being 863 and that of the latter 887. My calculations were based on the first-named formula for castor oil, the proportion in full being 863 ('castor oil) is to 120 soda as 100 grams of castor oil is to x which gives x the value 13.9 grams, or, to saponify 100 grams of castor oil 13.9 grams of soda must be taken. Using the second formula for the oil x equals 13.5 grams. Experimentally, I found that more caustic soda than this was needed, 15 grams of socalled '95 per cent. caustic soda' giving a practically neutral soap. The excess of soda is required partly to combine with other components of castor oil besides glyceryl triricinoleate, partly because commercial caustic seldom comes up to strength.

"It must be understood that where I speak of 'castor oil' and 'the molecular formula of castor oil' that only its glyceryl tri-ricinoleate is actually meant—this substance is practically the only one in modern refined castor oil in more than slight proportions. The glycerin liberated in the reaction by which sodium ricinoleate is formed may be retained in the final soap-product in considerable proportion if the watery mixture of oil and alkali is simply evaporated to the desired consistency; if so desired, the 'ricin soap' can be 'salted out' as is done with other soaps by the use of strong brine, the 'ricin soap' not being injured by this treatment. I found it best to keep all the glycerin in the soap that was not left in the 'soap liquor' from which the soap was separated, to prevent the soap from becoming too hard."

How Druggists Make Soap.

Our otherwise very excellent contemporary, the Druggists' Circular, in its last issue advises a correspondent on soap making, as follows; its information must certainly have come from old-fashioned sources and even these cannot have been correctly quoted.

A good common hard soap may be made from clean tallow or lard and caustic soda, without any very special skill in manipulation. The caustic soda indicated is a crude article which may now be obtained from wholesale druggists in quantities to suit, at a very moderate price. A lye of average strength is made by dissolving it in water in the proportion of about 2 pounds to the gallon. For the saponification of lard, a given quantity of the grease is melted at a low heat, and one-fourth its weight of the lye is then added in small portions with constant stirring; when incorporation has been thoroughly effected, another portion of lye equal to the first added, as before, and the mixture kept at a gentle heat until saponification appears to be complete. If the soap does not readily separate from the liquid, more lye should be added, the soap being insoluble in strong lye. When separation has occurred, pour off the lye, add water to the mass, heat until dissolved, and again separate by the use of more strong lye or a strong solution of common salt. The latter part of the process is designed to purify the soap and may be omitted where only a cruder article is required. The soap is finally re-melted in a water-bath, kept at a gentle heat until as much water as possible is expelled, and then poured into frames or moulds to set.

These frames are boxes, the bottom of which is formed by a slab on which they rest, and made in horizontal sections put together with dowels, so that they can be removed one at a time when the soap is cold. The portions successively exposed by taking off the sections of the box are separated from the mass by a fine wire, and the block is thus eventually divided into slabs. These are further sub-divided if required and then set aside to dry.

When cocoanut oil is saponified the product is a very hard soap which has the peculiarity of being soluble in hard water and even in sea water. From its hardness which prevents rapid solubility, fats are frequently if not usually mixed with the oil to modify the character of the resulting soap in this respect.

Cocoanut oil when freshly expressed from sound nuts has an agreeable odor and taste; such an oil we understand, is now procurable in this market, it being obtained as a by-product in certain preparations of the nut for culinary uses. The article commonly found is prepared abroad and from careless preparation or the development of rancidity or both, it possesses a disagreeable odor which renders it totally unfit for making toilet soap, or perhaps any other, as the odor is

so persistent that it may cling to articles cleaned by its agency.

To make a soap from cocoanut oil and tallow, the fats may be mixed in the proportion of about twelve of the oil to one of the tallow; the quantity of fat and alkali will be about as follows:

Fat 22 lbs.
Soda ley, 24° B.....3¼ gals.
Potash ley, 20° B.....4½ pts.

The leys referred to contain about 18 per cent. of caustic soda and potassa, respectively; and are made by simply dissolving the soda and potassa in water in the proportion indicated.

The fat is heated to boiling and the soda ley added in small portions continuing the boiling, and being careful to allow each portion to be well incorporated with the fat before adding the next. After the soda is all in and the mixture has been boiled for half an hour, the potash ley is added in portions as in the incorporation of the soda, and the boiling continued a quarter of an hour after the last portion has been uesd; about a pound of common salt is then sprinkled slowly over the mass, the boiling is continued another half hour and the soap is then allowed to cool.

The addition of potassa is to give a softer soap and the salting is to separate it from the liquor, it being insoluble, as before indicated, in a strong brine.

The separated soap is ladled out into a frame in which it is allowed to cool.

Care must be taken in the boiling to have the saponification complete and a little more ley must consequently be added if the quantities used have not been quite sufficient for that purpose. The excess of ley, if any, will be to a great extent, at least, separated from the mass.

If the soap, when ready to ladle out, should show a decidedly alkaline reaction, it may be purified by drawing off the brine, re-melting with water and again "salting out."

Soaps are sometimes made by a so-called cold process—that is, the mixture of lye and grease is heated to about 120 degrees F., or less if oil only be used, and kept at this temperature for a short time. The reaction may not be complete for several days, but it goes on without further heating. In using this process the operator should carefully calculate the proportions of the grease and alkali required, as an excess of either will, of course, remain in the finished product. The glycerin formed in the operation also remains in the soap.

Soaps are sometimes made from oleic acid, the crude article obtained in the manufacture of stearin being utilized. This form of the acid is commercially known as "red oil."

If the pharmacist desires to undertake the making of soaps for toilet use for his own trade, it would apparently be best to buy his "stock" soap from the manufacturer, confining his work to scenting and shaping into suitable pieces. It is important that a stock soap should be obtained which is nearly or quite neutral. An excess of alkali renders a soap more detergent, but it also in creases its ability to roughen the skin. The nature of a given sample in this respect may be roughly estimated by use on the hands a couple of times in close succession; but it is preferable to test chemically for free alkali, and if it is present, to neutralize by the addition of grease in the re-melting process.

The incorporation of perfumes (and coloring materials when the latter are desired) may be accomplished in two ways.

In one method the soap is first cut into thin slabs—being a bad conductor of heat, this division is advisable—and is melted in a pan, usually of iron, heated by a water bath or a steam jacket. When the quantity is large, the soap is not all put in at once, but added in portions, allowing one to "run down" before the addition of the next. Unless the soap is very new and soft, a few ounces of water are added for each pound of soap. The pan is kept covered as far as possible, and the melting facilitated by stirring with a "crutch"—a rod carrying a short cross-piece at one end.

When the mass has become homogeneous, the coloring matter, if any is desired, is crutched in, and then the perfume is incorporated in the same way, after which the soap is immediately poured into the "frame" before mentioned.

The second or cold way consists in cutting the soap into very thin shavings, adding water if necessary, and in the latter event, allowing the mass to stand ten or twelve houre for absorption to take place. The coloring and perfume are then added, and the mass beaten in a mortar until homogeneous, or, more conveniently passed between rollers revolving one against the other, by which the soap is redueed to thin ribbons, which are recombined and rerolled until uniformity in consistence is required. These ribbons are finally beaten together and the mass divided into pieces of the desired size. This method is desirable when expensive perfuming material is employed, as some of the perfume is apt to be lost when heat is employed.

The eakes or tablets obtained by either of the above described processes are usually finished by pressure in appropriate moulds. The moulds are dusted with starch or slightly oiled to prevent adherence of the soap.

The pieces of "green" soap, from which tablets are to be made, must weigh about one-third more than it is intended they shall do when finished. The degree of dryness at which they should be pressed can only be determined by practice. If pressed too soon the soap will, of course, suffer loss of shape on further drying. For the finest finish two pressings are required. After the first they are lightly scraped, polished with a rag

moistened with alcohol, dried for 24 hours or longer in a hot air chamber and again pressed.

Soaps are better without color, especially if for use on tender skins; if tinting is insisted on, however, the operator must reduce the objection to the minimum by using only such materials as are known to be the least objectionable. Such colors are: for *red,* venetian red; *blue,* prussian blue; *dull yellow,* French ocher; *bright yellow,* annatto; *green,* a mixture of yellow and blue; *orange,* yellow and red; *purple,* blue and red; *brown,* brown ocher, umber, burnt sienna or caramel. With the exception of annatto and caramel, these colorings are insoluble and must be ground to a smooth paste with water before incorporating with the soap.

A large number of essential oils are available as perfumes for soap, both alone and in admixture; and some synthetic compounds have of late years been produced which are offered as soap perfumes. Among the cheaper oils which are available for the purpose are those of sassafras, thyme and citronella. About 2 ounces of either of these are required for 10 ounces of soap.

The following mixture gives an agreeable perfume:

Oil of cassia.....1 part.

Oil of lavender.....8 parts.

About 1 ounce of this is sufficient for 10 pounds of soap.

The Price of Soap.

Modern methods of reforming mankind include cleanliness in the moral and physical regenerative process. It is contended that no sane person can enjoy the benefits of religion, unless he washes frequently and pays due attention to his person and his surroundings. It is all right enough for the Buddhist or the Mohammedan to dwell in filth and rags and dream of bliss in the hereafter, but the Christian must be pure in body as well as in heart. Consequently, the soap-boiler has walked hand in hand with the missionary through the domain of pagandom, and when the sweet and aged story failed to appeal to the sensibilities of the unregenerative, the bath tub and towels and soap made auxiliary movements, and in the end the cause of civilization and Christianity triumphed.

Not a few of us old fellows can remember the time when every family made its yearly supply of soft soap from hardwood ashes and such fats as were collected about the household. There was very little "hard" soap in existence, though a few firms made up bars and sold them by the pound. The only bar soap in common use was the so-called "Castile" variety, which was red-and-white mottled, and which was kept for special occasions or for "sickness." The earliest soap that was put up in individual wrappers and retailed at the stores was priced at ten cents a bar, and was thought to be a marvel of cheapness. This was nearly forty years ago. Today the stores sell bigger and better bars of soap for five cents, while such soaps as now retail for ten cents a bar would have been luxuries too dear for common people to indulge in. What is of still more importance to us poor folks is the fact that soap is growing cheaper every year. New firms capitalized for large sums are filling the pages of papers and magazines with advertisements for soaps, which were not on the market six months previous to the announcement of their virtues. Nearly as much money is spent in advertising soaps as there is spent in advertising "patent" medicines; and each reaches into millions of dollars every year. Why, the names of "Ivory," "Life-Buoy," " Sapolio," "Pear's" and scores of others are household words.

From the increasing consumption of soap one is led to infer that we are growing better as a community, that Godliness is spreading and reaching out to encompass the earth, and to bless those who dwell upon the earth. There may not be so close a connection between cleanliness and Godliness as many would have us believe, though it is well understood that a clean man is better prepared to receive religious truths than any dirty individual can be. The days when unkempt hermits sat back in dark caves and were considered holy men because their hair was long and uncombed and their clothing was not fit to bear inspection—those times have gone by. The man who would respect himself or who would receive respect from his associates must use soap and use it constantly.—Bangor News.

Coldness of Money.

A clipping containing a very philosophical article by the editor of one of our local exchanges is worth reproducing. The name of the publication is not known, hence due credit cannot be given. "Give a man a ten-cent cigar and he will love you for six hours; offer him ten cents to buy it for himself and he will throw it in your face. Give a man a pass for a show and he will call you a good fellow in all the language at his disposal; offer him the money to buy one and he will call you a fool. Ask a man to your home to take 'pot luck,' and he will jump at the chance; give him two dollars and tell him to get a good meal at a cafe with your compliments and he will knock you down. The dollar is mighty, but not warm. Nothing chills the hospitality and good fellowship more than the touch of cold metal. You may spend money on a friend, but you must not ask him to touch it. Silver isn't a good conductor, and can't transmit half as much hospitality and cordiality to a friend as by means of a bad cigar. Money substitutes for good looks and good sense with great success, but it can't take the place of fellowship worth a toothpick."

PATENTS AND TRADE-MARKS.

The following list of recent Patents and Trade-Marks is reported by W. G. HENDERSON, Solicitor of American and Foreign Patents and Trade-Marks, Norris Bldg,, Washington, D. C. A copy of any of the following will be furnished by him for 15 cents.

PATENTS.

769,864. Perfuming device. Cortez D. Hall, assignor to Akron Extract & Chemical Company, Akron, Ohio.

TRADE-MARKS.

43,378. Certain Named Soaps. Arthur Wolff, Jr., Breslau, Germany. The word "Sapal."

43,400. Cleaning Compound for Metal or Wooden Articles. Thomas B. Reed, Pleasant Hill, Mo. The word "Caddo" inscribed upon a scroll and associated with the representation of an infant in the nude in a reclining position.

43,413. Soaps. Obermeyer & Co., G. H. B. H., Hanau on-the-Main, Germany. The representation, in red and white, of a nurse in the garb of a nun in the act of bathing a child.

43,424. Certain Named Cleaning Compound. Granville M. Breinig, New Milford, Conn. Autoclean. The word "Autoclean."

43,444. Soap. The Henry Roever Company. Chester, Pa. The hyphenated word "Blue-Nap."

43,358. Perfumery. Colgate & Company, New York, N. Y. The hyphenated word "Week End."

LABELS.

11,376. Title: "Veg-Oil." (For Soap.) The Puck Soap Company, Des Moines, Iowa.

11,398. Title: "Sugar Soap." (For Soap.) Sugar Soap Company, Decatur, Ill.

11,404. Title: "Cleo." (For Soap.) The German American Soap Works, Ltd., New Orleans, La.

11,417. Title: "Radium Polish." (For Cleaning and Polishing Compound.) Sanitary Chemical Company, Allegheny, Pa.

11,418. Title: "Tryme-e." (For Washing Powder.) Anna B. Walters, Johnstown, Pa.

11,432. Title: "Electric Cleansing Fluid." (For Cleansing Fluid.) The American Cleansing Fluid Co., Glens Falls, N. Y.

11,433. Title: "E Z." (For Soap.) G. F. Chapin & Son Co., Reading, Mass.

11,434. Title: "Reuter's Soap." (For Soap.) Reginald G. Barclay, and Clara S. Barclay, Trustee of W. O. Barclay, deceased, New York. N. Y.

11,459. Title: "Assad Bey Karam Rose." (For Perfumery.) Charles Rahayel, New York, N. Y.

PRINTS.

1,095. Title: "Dermoline." (For Liquid Soap.) Elmer E. Holt, St. Louis, Mo.

1,099. Title: "Hasn't Scratched Yet." (For Scouring Soap.) The Bon Ami Company, Jersey City, N. J.

AROUND THE SOAP FACTORIES.

News items sent us by our readers will find prompt attention in this column

The National Soap Works at Titusville, Pa., announce that their factory has been permanently closed, and the machinery is being sold.

Our advertising pages this month show a number of more or less radical changes in quite a few advertisements; also several quite new announcements. It is worth while to note the new points.

David L. Rose, who for fourteen years was connected with M. L. Barrett & Co., of Chicago, is now connected with Thayer & Company of that city, having undertaken the complete management of their soap and perfume making business. The good wishes of all his old friends accompany him into his new field.

We are in receipt of the H. W. Dopp Company's new catalogue of soap making machinery. This publication has evidently been prepared with a great amount of care, and in respect to detailed information is unusually complete, so that it almost compels close study by force of its own interesting contents. Although nearly half a century before the trade, the firm still reports a continuing growth of its business and evidently strives to deserve an equal prosperity for the future.

A press clipping from an Evansville, Ind., paper informs us, that one more good deed must have been entered a few days ago by the recording angel, to the credit of A. Melzer of that city. Being accidentally a witness to an act of wicked and uncalled for cruelty to a pony, on the part of a brutal horse trainer, he stopped and caused the arrest of the latter and subsequently testified in court to the facts of the case. Being supported by the testimony of other witnesses and of a veterinary surgeon, he carried his point, and the horse trainer was fined $25 for his action. The fine ought to do the brutal fellow some good, though he may not realize it at first. It certainly sets an example needed but too

greatly everywhere, and, accidentally or otherwise, similar prosecutions have since been begun against several other men guilty of cruelty to animals in the same city.

Incorporated: Robert Low's Son & Howard, at Port Ewen, N. Y., to manufacture soap, etc. Capital, $10,000. Incorporators and directors for the first year: W. C. Howard, Brooklyn; G. R. Aitken, Orange; Alexander Wilson, New York City.

There is a report in Chicago, that some of the packers are contemplating the removal of their by-product plants from the city to locations near Joliet. At the latter point there is plenty of land and an abundance of cheap power. The cost of coal is said to be the moving factor in this matter. The packers are said to believe the move would be an economy. The departments especially referred to are the soap and glue houses.

Incorporated: The Wabash Soap & Chemical Company, Wabash, Ind. Capital stock, $50,000. Directors: John M. Harter, John B. Latchem, Ovid W. Connor, James Lynn, Jr., George B. Fairley, James H. Ford, Nelson G. Hunter.

Fire from an unknown cause broke out in the soap factory of Louis Freese, at 148 Richardson Street, Brooklyn, N. Y., on October 1. Damage was slight.

New York, Oct. 7, 1904.—James R. Pitcher, manager at No. 46 Cedar Street, has filed a petition in bankruptcy, with liabilities $69,450 and no assets. Of the liabilities $12,237 are for goods sold to the firm of Pitcher & Martin, in 1897. Part of his debts were contracted in this city and part at Short Hills, N. J., and various other suburban places, between 1892 and 1898. Mr. Pitcher was for twelve years manager of a mutual accident association, afterward was interested in a nursery business at Short Hills, and later was president of a soap manufacturing concern in this city.

From the Zion City, Ill., Banner: John Caldwell, of 2402 Gilead avenue, while on his vacation, visited with friends in Chicago. He took with him samples of Zion toilet soap and Zion candies. These friends had always been somewhat prejudiced against Zion, but during his visit much of this was removed. When they found the superior quality of the goods manufactured in Zion City they were greatly pleased, and showed their appreciation after testing the soap upon themselves by using it upon the baby; "which," says Mr. Caldwell, "was the greatest compliment they could pay to the article." Of the candy they could not say enough, pronouncing it the best of any they had ever eaten. All these things worked for the good of Zion in that it broke down prejudice to such an extent that Mr. Caldwell has the promise of a visit from his friends in the near future.

Incorporated: The Fred. Mayer Company, of New York City, has been incorporated with $30,000 to make soaps and toilet articles. The directors are Fred. Mayer, Samuel Mayer and W. P. Plato, all of New York City.

Eugene, Ore., Sept. 26.—The Eugene soap factory, which was closed by attachment proceedings two weeks ago, has again resumed operations, a settlement having been effected with the creditors of the concern. The factory is an important industry here.

The roof of the engine room in Beach's soap factory at Dubuque, Iowa., got on fire recently and three fire departments were called by telephone.

When they arrived on the scene, the blaze had been almost extinguished by employes who had rigged a small hose kept in the engine rooms.

The location of the fire was rather dangerous, as the engine room contained large piles of shavings used for fuel in the furnaces.

Hopkinsville, Ky., October 22.—(Special to the American Soap Journal.)—The Lusterine Mining and Polish Co. of this city have this week located their plant and factory here, ordered machinery to complete the mill, and will be running at full capacity in a few days from this date. A full force of men are now engaged at the mines, under the management of Supt. J. J. Boynton, of Princeton, Ky., shipping the crude mineral here ready for the mill.

The company is capitalized at $100,000, and own a large tract of land on which is an inexhaustible deposit of Lusterine, a newly discovered mineral, which experts state contains more cleaning power than any other substance ever discovered. The company has had it fully tested by the highest authority in the country, fully satisfying them of its superiority over all other products, as a mineral soap filler and metal polish that will quickly clean and polish anything. It is defined by chemists as a "Volcanic Mineral" thrown out by an upheaval, and deposited in the fissure, where it is now mined. The company, besides manufacturing Lusterine Soap and Lusterine Polish as their own private brands, will supply other soap and polish factories with Lusterine, in bulk, for the manufacture of their goods. They will also supply railroad supply houses, fire departments, water and electric light companies, and all

other manufacturers, with Lusterine in bulk for cleaning and polishing machinery, tyle floors, bath tubs, and every other kind of metal, wood or hard substance, that may need periodieal cleaning. The officers are, Hon. Frank Rives, Pres.; Judge W. T. Fowler, Treas.; L. Hayden, Secy., Hopkinsville, Ky., and J. J. Boynton, Superintendent at Princeton, Ky., with the Bank of Hopkinsville, Ky., as the depository of their funds.

Incorporated: The Walter H. Draper Company, of New York City, has been incorporated to manufacture oils, grease, etc. The capital is $10,000, and the directors W. H. Draper, Harriet U. Draper, Mount Vernon, N. Y., and Libbie Hogan, of New York City.

Burlington, Iowa, Oct. 6.—This afternoon at 2 o'clock the well diggers at the Iowa Soap company's factory, struck the first flow of water, at a depth of 420 feet. The stream has an overflow of twenty gallons per minute.

The contractor will continue to drill until the well has a depth of 500 feet, by which time he expects to strike a flow that will furnish several thousand gallons per hour.

Almost simultaneously with the foregoing item we received the following sad report from the same city (Burlington, Iowa): James F. Barr, one of the richest and most prominent business men of Burlington, died tonight, after an illness of several years.

He was secretary and treasurer of the Iowa Soap company. He began life as a clerk in a shoe store and won his way to success through his original and inventive ideas. His death was due to Bright's disease. He was 40 years old.

Wilkesbarre, Pa.—The Union Soap Company, which has had a fat frying and bone boiling establishment on the east side of the Susquehanna to the great nasal suffering of the good people of Plymouth promised court this morning to abate the nuisance and as a consequence the case against it was settled.

The company will now use certain appliances to run the bones and fat through without causing an odor, and if this fails the plant will be moved back to the mountains.

Crofts & Reed, soap manufacturers, of Chicago, Ill., are building a two-story addition, 60 by 120 feet.

Belfast, Me., Oct. 14.—The death of Joseph R. Hamilton of Swanville, removes an old resident of that town, and one who has been well known in business circles in this city. The deceased was aged 86 years, 3 months and 16 days. He was the son of Daniel and Esther (Roberts) Hamilton and born in the town of Swanville where he has always lived.

The oldest of his family, he was the last to pass away. The farm where he lived had been his home since a young man, when he cleared it from stumpage and placed it in good operating condition. He opened a soap business in manufacturing and peddling and was successful in that line. Three years ago, owing to poor health he gave up the work.

Atlanta, Ga.—The Southern Cotton Oil Co. will increase the capacity of its plant, adding a lard and soap department. L. A. Ransom is manager.

A new two-story building is being put up at the Spahn soap works, at Lebanon, Pa., which was recently bought by Messrs. Shucker & Shindle. It will be 63x30 feet in size.

Burlington—The Iowa Soap company will erect an addition to its plant, four-story brick, 100x113.

It is reported that the employes of a large Cincinnati soap works are striking on the novel ground that one of their fellow employes (earning $9.00 a week) is getting too large wages; they want him discharged. Did you ever?

The American Soap & Washoline Co., of Cohoes, N. Y., have put in an addition for glycerine recovery.

O. N. Shedd, of Aurora, Ill., who has been in the soap and tallow business for 48 years, has just sold out to A. Rogers & Co.

One of the big industries in Mexico is the soap factory in Gomez Palacio. The capital stock is $2,500,000. Since the capitalization the shares have increased from $100 to $500. The reports for year before last show that the net profits amounted to $1,000,000 and this year will amount to something more than $1,428,000.

Additions to Our Brand List.

Power Soap — F. Martin. Columbus, Ohio.
Strawberry Juice Transparent Glycerine S. No. 202 — Frazer Soap Co., Chicago, Ill.
Dolly Varden — A. W. Wilwid & Co., Newark, N. J.

Angelo Olive 54
Aroma de Clavel 54
Boro Myrr 54
Clavel 54
Cu-Te-Na 351
Four Leaf Clover 54
Gasene 106
Glyco Tar 54
Golden Dragon 54
Gold Medal 106
Individual Toilet 54
Keno 106
Koko-Oil 54
Kold-Wata 54
La Fiesta 54
Magno 106
Osmosis Soap 4
Prismal 106
Savon Fleur de Lis 54
Spick and Span 106
Stellar 106
Trix 54
Veg-Oil 113

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The attention of our readers is called to the column of

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advertisements on another page. Manufacturing firms looking for intelligent up-to-date help, or who have second-hand machinery they wish to dispose of, and practical men experienced in any branch of manufacturing chemistry looking for employment, can mutually profit by using this column.

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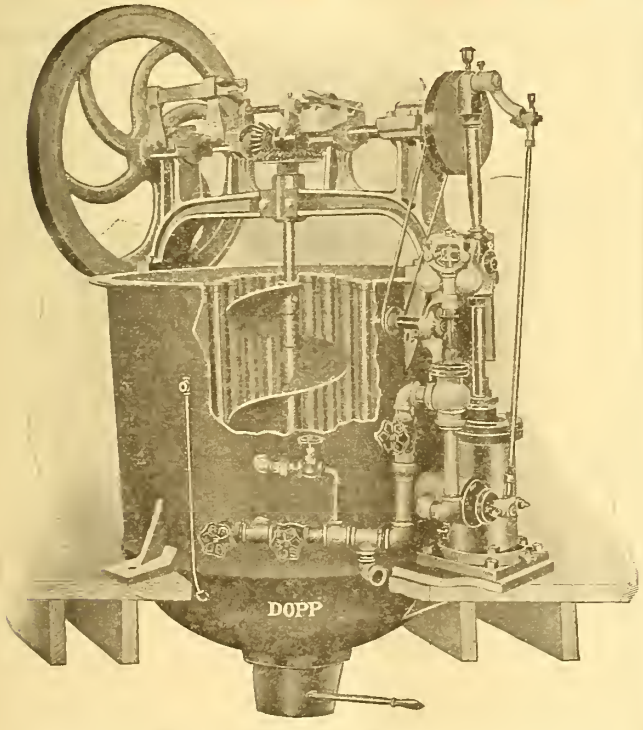
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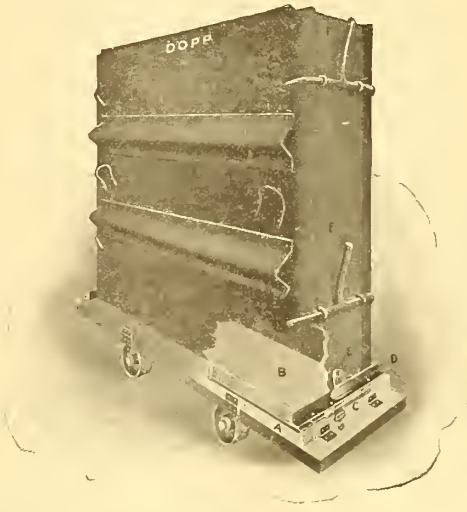
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NOTE: This list is compiled with the greatest possible care, but the publisher does not assume any responsibility other than to correct and to complete the list according to data obtained from official sources or furnished by the trade. Brands registered in the patent office as trade-marks or labels are given with the name of the party registering same. Brands or names marked * are those which were found to be used by more than one firm or the owner of which could not be ascertained. ☞ SEE THAT ALL YOUR BRANDS ARE ENTERED IN YOUR NAME.

3 Liberty Mfg. Co., Chicago.
113 Puck Manufacturing Co., Des Moines, Iowa.
344 Home Soap Co., N.Y.
345 Columbia Ref'g. & M'f'g Co. Ltd , New Orleans.
346 Beaumont Soap Co., Mayfield, Ky
347 Lockwood Soap Co., Kansas City, Mo.
348 Oklahoma Soap & Oil Co., Oklahoma City.
349 M. F. Windsor Soap Co., East Buffalo, N. Y.
350 Florida Cotton Oil Co., Jacksonville, Fla.
351 Brown Soap Co., Dayton, Ohio.
353 Southern Soap Co., Birmingham, Ala.
354 Zion City Soap Factory, Zion City, Ill.
355 Palami Co., Boston, Mass.

Abrado, Floridine Mfg. Co., New York.
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The American Soap Journal & Manufacturing Chemist.

A MONTHLY JOURNAL OF THE MANUFACTURING CHEMICAL INDUSTRIES.

DR. HENRY GATHMANN, Publisher.
2707 North Ave, Milwaukee.

MILWAUKEE, WIS., December 1, 1904.

VOL. XV. No. 4.

THE AMERICAN SOAP JOURNAL AND MANUFACTURING CHEMIST.

SUBSCRIPTION:

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FOREIGN COUNTRIES in the Postal Union 2.50 "

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OFFICE OF PUBLICATION:

2707 NORTH AVENUE, MILWAUKEE, WIS., U. S. A.

The AMERICAN SOAP JOURNAL AND MANUFACTURING CHEMIST is devoted to the interests of all manufacturing industries of a chemical character, and is an absolutely independent publication. It is the only newspaper of its kind in America and has also a large foreign circulation.

For Subscription and Advertising rates see above.

Communications on industrial subjects, news items, and any information suitable for printing in these columns, are solicited and will have due attention.

Readers in search of machinery, supplies etc., not advertised in these columns, are invited to write us and we shall endeavor to supply the information.

Address all communications to

DR. HENRY GATHMANN, Publisher,
2707 NORTH AVENUE,
MILWAUKEE, WIS., U. S. A.

The following two news items come to us in the form of press dispatches. Whether there is any connection between them or not, we have no means of knowing. In either event we do not know what they can possibly mean:

El Paso. Tex., Oct. 20.—M. DeMousey, chief engineer of a Belgian syndicate, who has been here several days making careful investigation, announces that his company will establish an artificial soap factory in El Paso, which will employ several thousand people and represent an investment of $100,000. The engineer secured an option on a tract for the plant, and leaves to-morrow for Paris to complete the arrangements.

* * *

Media. Pa., Oct. 26.—Judge Johnson to-day appointed William I. Schaeffer, Supreme Court reporter, receiver of the General Artificial Soap Company, of Lansdowne. A bill in equity was filed setting out that the debts of the company amount to about $130,000. The capital stock is $250,000. A few weeks ago citizens of Lansdowne asked Judge Johnson to restrain the company from allowing smoke and odors to issue from its plant.

* * *

Vat iss?!

A new soap factory recently established in Bengal is so novel and important an undertaking in that part of the world, that His Highness, the Maharajah of Mourbhury, came, with a company of other distinguished notables, to honor it with a visit.

If the Maharajah of our own country will look over our news from Kansas City, on another page, he will learn something to his advantage—that is, if he should feel that recent events in politics should make a visit to Missouri seem due to that great state.

It has given us great pleasure to receive from Joseph Crosfield & Sons, Limited, Warrington, England, copies of two pamphlets just issued by that firm. Both treat, in a highly interesting manner, certain phases of their great soapmaking and allied manufacturing business, and we trust we are not overstepping the limits of ordinary newspaper piracy, when we quote somewhat exten-

sively from these pamphlets, on another page of this paper.

If our copying so freely from these pamphlets should appear as giving rather much space to one firm, we assure our readers that the subject is amply worth it, and that we should willingly, and gladly, do as much for any other firm that will send us the data!

One of the two pamphlets sets forth by diagrams and explanatory text the making at these works of soap, glycerine, caustic soda, silicate, edible cocoanut oil, paint, boxes, printing, and several other departments. The other pamphlet we shall copy nearly in full, as it is the full account, not an extract, that is most interesting.

The worst, most foolish, and weird formula for making soap that we ever encountered, appeared last month in a technical paper whose identity we prefer to cover with the cloak of charity. It is as follows:

"To prepare a true almond soap three pounds of bitter almond are triturated in a mortar of suitable size with three pounds of rose water until a uniform mixture, an emulsion, is obtained. This mass is passed through a conveniently coarse linen into a copper kettle, and mixed therein with one pound each of good tallow soap and castile soap, which latter have been previously diminuted to a coarse powder. The kettle is put to fire, and the mixture heated until solution of the soaps in the almond rose substance ensues. The mass is now again strained through linen into a clean copper vessel, one pint of soda lye added, and the whole brought to a gentle boil. The lye is prepared by dissolving in a pint of soft water, such as rain water, a pinch of caustic soda.

When the mass in the kettle assumes a tenacious consistency, two ounces of common table salt are added, thoroughly agitating the contents of the kettle all the while. A second boiling is awaited, but now without agitation, in order to allow the separating soap to accumulate on the surface of the water solution. The testing of the soap is now indicated. To this end a sample is withdrawn as soon as large bubbles rise above the soap, the cooled sample indicating the progress of the operation. When finished, the soap is poured into forms, pressed and cut into the desired shape after cooling. This process is credited with obtaining very gratifying results."

"A little knowledge is a dangerous thing." The truth of this old saying was amusingly illustrated when, last month, a committee of barbers appeared before the Pennsylvania legislature to support the passage of a bill for the purpose of closing "unsanitary barber shops."

A committee of four physicians had been delegated to listen to the argument of the callers. "How do you propose to make *your* shops more sanitary than are the others?" they were asked.

"Well; there is the soap. We propose to abolish the use of hard or cake soaps!"

"In what manner?" insisted the questioner.

"Why, we make 'cream' out of it," replied the spokesman, who was speaking on the authority of one of the largest firms (who not only sold them the shaving soap, but also threw in the formula).

"How do you do it?" he was then questioned.

"Oh," hesitatingly, replied the learned barber, "we boil the hard soap with water and then beat up the solution into a foam; this makes fine shaving cream."

The reply the committee received was something like this: "Sorry, gentlemen, to be obliged to tell you that we cannot recommend the passage of your bill. As long as you have not a correct understanding about antiseptic methods, you cannot be expected to observe the latter. Soaps, especially neutral soaps like those used for shaving, lose much of their antiseptic power; soaps boiled up with water are not creams, but simply resemble soft soaps, and not nearly as effective as these. The experienced soapmaker adds materials that prevent the decomposition usually taking place when soap is dissolved with water. Your so-called 'cream' is unfit as an antiseptic soap. Call again when you have studied the subject further."

The Barbers' Bill was not passed, and those Pennsylvania barbers are not likely to show off their soapmaking knowledge again. Our informant did not give us the name of the soap manufacturers in question, but suggests that "they can hardly be subscribers for the Soap Journal, or at least do not read it carefully, as the doctors unfortunately knew more about the effect of water on soap than they did."

However that may be, soft soap, or rather real "cream" soap, fit for shaving, is the product of oils saponified with potash lyes, and not hard soap softened by the addition of water.

The laity (and here we must for the present still include the barbers, with few exceptions) have a most remarkable conception of the meaning of asepsis and antisepsis.

A mother will buy sterilized milk for her infant and administer it to the latter by means of a bottle containing a sour remnant, and, likely enough, a drowned fly. Attendants on sick people will boil water to be used by or on the patient and then ascertain its temperature

(while cooling off for use) by repeatedly sticking their dirty finger into the water. Injured workingmen will carefully wash out a wound with boiled water (with a few drops of carbolic acid), and then tie a dirty cobweb or chewing tobacco on the raw surface!

"Liberty (from filth) what crimes are committed in thy name!"

Soap Advertising.

AS VIEWED FROM THE STANDPOINT OF THE MAN WITH MODERATE MEANS, WHO PAYS THE BILLS.

BY GEO. A. SCHMIDT, CHICAGO.

"Selling Soap vs. Advertising Soap," and "Friendship in Business," these two interesting essays published in the November issue of the THE AMERICAN SOAP JOURNAL, prompt me to carry out an idea which has been in my mind for some time, that is, to talk about the experiences of a practical man, a soapmaker, in regard to Soap Advertising and Selling, and so, perhaps, bring out the opinion of others, about the best methods of *selling* the product of so much work, and study and capital invested, in a manner that will leave enough profit to encourage others, to progress further in the art of making that article so necessary to make life worth living, viz.: *good* soap.

The first of the articles in last SOAP JOURNAL, above mentioned is interesting because it carries the stamp of the times; it deals with an investment of $100,000. As we are told the article in question is three to five years old, we suppose, the sum would have to be increased to $500,000 to-day in order to keep up with the "progress" (??) of modern times, where the man with moderate means, or no cash at all, is left out of the question, when money making is considered.

It was *before* the late strikes in the packing houses, when the writer called the attention of the managers of one of our largest soap concerns to the danger of leaving "the others" out in the cold and considering the interest of only one concern. The man evidently does not comprehend what that great German thinker meant when he says: "Es kann der Beste nicht in Frieden leben, wenn es dem boesen Nachbar nicht gefaellt." The sense of which is, "The best of us cannot live in peace unless 'the others' are willing." He replied: "Oh, we have heard such talk before and don't care a snap for 'the others'." Well, they have had a taste of strikes in the stockyards since, and any man who can read the "signs on the wall" knows, that much worse is coming, unless we mend our ways.

To provide work, *interesting* employment, something to keep hands and heads profitably occupied, is what is needed, and it is the object of this essay to outline a way by which the desired goal may be reached.

When the big packers made up their minds that their offal fat could be sold at a better price, if it were converted into soap, the enormous increase in the output of that commodity made it necessary that smaller soap manufacturers, "with eyes to see," should devise better plans by which they could make the public acquainted with the advantages they had to offer.

As the packers, and other concerns, with practically unlimited means, are able to hire talented "Adsmiths" to get up the most elaborate advertising schemes, and can afford to engage the best salesmen, it is no easy matter for the man with moderate means to devise methods whereby he can hope to succeed in making the public look upon his offers with favor.

Happily, "Necessity is the Mother of Invention," and, perhaps, it may interest some of our readers to know something of the ideas and principles which guided the writer in his attempts to make the public acquainted with the advertising ideas a practical experience of thirty odd years has produced, so as to judge which of them may be considered likely to pay for space and printing.

The public is a queer mixture of many kinds of persons; arguments, which may appeal to some, have no effect whatever on others. It requires a lot of hard thinking to choose such expressions as will arouse curiosity and make favorable impressions on the reader's mind. Space in widely read newspapers is expensive, and thoughts must be condensed if it is expected to make advertising pay.

"Soap" has been advertised in such a manner, that to mention it is usually sufficient to disgust those whose interest and good will we need. In order to get and keep the "good will" of the public, which is so necessary to permanent success, we are obliged to *live up* to the assertions, that advertisers can render better services to intending purchasers, than those who use their money and influence to *make people believe* they will do so.

The well known saying, usually attributed to Lincoln: "You can fool some of the people all the time, and all the people sometimes, but you can't fool all the people all the time," holds good to-day; and it is as true as it ever was that "honesty is the best policy." It is not at all necessary to overdo things in that direction. The writer does not refuse to make just as poor soaps as any one else, *if they are ordered that way.* To illustrate: A few days ago a gentleman wanted a "cheap liquid soap for shaving." We told him liquid soaps, as a rule, were unfit for shaving, for many reasons, besides the price he was willing to pay was altogether too low. Whereupon the obtained a sample elsewhere. Upon examination, the same proved to be a solution of shaving soap in water in about the proportion of one to ten. We called the attention of the party to the folly of decomposing part of the soap by mixing it with so much water, the

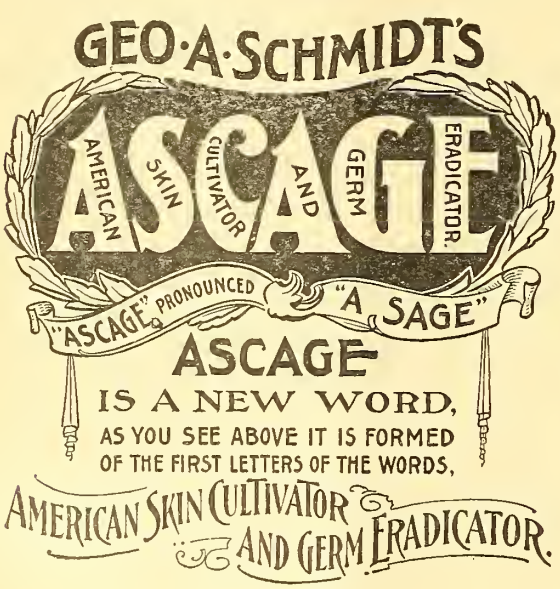
cost of handling, buying containers for shipping, etc., etc., for so large a percentage of water; also the danger of its freezing in winter and the bursting of the bottles in consequence, etc. By thus giving our experience, we consider we have done our duty, and if the party has other objects in view, and orders soaps to be made as he desires, we shall certainly execute any work paid for.

It is wrong, however, in our estimation, when manufacturers withhold their experience. Real progress is impossible unless those who acquire knowledge and experience in their calling come out publicly with their ideas. Goods, which the makers know cannot render good service to the public, should not be *offered*. All should demand a fair remuneration for their services along the lines explained so forcibly in the article from the *National Laundry Journal*, as printed in the November issue of THE AMERICAN SOAP JOURNAL.

"Easier said than done," the reader will think, and it would be a Herculean task, indeed, to tell others individually how they should manage their business; but, believing that the examples set by others are sometimes the best of teachers, the writer proposes to show in the following, which course promises most satisfactory results in the Soap Advertising and Selling Line.

In order to save space, and to profit from the various announcements, which the progressive, experienced business man finds necessary to make, the use of good illustrations is recommended. The writer uses a number of them. The first one, our Trade Mark, has been printed often in this JOURNAL. It speaks for itself and needs no further explanation.

Because "Soap" has been so much abused in many ways, the mention of the word soap is often enough to disgust a person. In order to distinguish our *improved line* from the average article, we got up this cut:



Cut No. 207.

Desiring to impress upon our readers the necessity of careful consideration, we repeat here also some of the failures we made. Above cut is one of them. It does not express the idea we intended the artist should put into the work clearly enough. So we had another one made which is better:



Cut No. 276.

These cuts explain the meaning and the object of Ascage, but that is not nearly so important as it is to impress the general public with the importance of thorough cleanliness. Not an easy matter—everybody thinks he knows all about so common a thing as washing. It would be risky for a soap manufacturer to attempt to tell the public, his colleagues, or scientists, that they know precious little about that *seemingly* simple procedure; therefore, we call that distinguished English scholar, Professor Thomas H. Huxley, to our aid, who in defining the meaning of Science, speaks thus:

> "Science is, I believe, nothing but trained and organized commonsense, differing from the latter only as a veteran may differ from a raw recruit. The vast results obtained by Science are won by no mystical faculties, by no mental processes other than those which are practiced by every one of us in the humblest and meanest affairs of life. The man of Science, in fact, simply uses with scrupulous exactness the methods which we all, habitually and frequently, use carelessly."

If we let a third person, let us call him "Experience," speak, the public is more apt to profit from the teach-



Cut No. 385.

ings than if an interested person, one engaged in the business, would address them. After long and hard thinking, this picture resulted. It talks about *scientific* washing.

An old man, a sage, explains the many sides of the complicated problem of *"The manufacture, and the proper selection and use of means, wherewith to remove, from all kinds of surfaces, that mixture of minutest waste matter and its unavoidable accompaniment of dangerous germs and microbes, commonly called "dirt," in the most economical easiest, quickest, and most satisfactory manner."*

The advertiser with moderate means at his command, and, therefore, unable to fulfill the conditions explained in the first part of the articles above mentioned, viz.: to have his goods represented in all stores where readers of the announcements might ask for them, must follow different ideas. He must choose such illustrations (or other means) as are cumulative in their action, that is, the symbol seen once, may not attract any notice, but when seen repeatedly, in different situations, under varying circumstances and conditions, in places and at times when the emblem or figure conveys important ideas, then the same commands attention and impresses itself firmly upon the mind of the observer and connects the owner of such Trade Mark or Drawing with certain ideas.

Another important factor, to be borne in mind, should be the "growing power" of an ad. It should be like a seed, small and insignificent, perhaps, in its original form, but capable of development, of *growing* into a big, strong, healthy, fruit bearing tree, such as is is shown in the center of the above picture.

This idea was carried out when we copyrighted this picture as a trade mark.



Cut No. 325-C.

An old man with cap and gown, pointing to the letters which constitute the word ASCAGE.. For newspaper advertising, half tones are not always suitable, simpler cuts, with less shading and easily readable, are best for such purposes.

Another example which embodies more information in less space is the following:



Cut No. 386.

This contains in a condensed form our name, address, and business, two trade marks, telephone number, time when business was established, etc., all in fairly attractive shape.

Especially the latter electro answers quite well for a general "ad" in newspapers, etc., but, because there are so many good "ads," success depends upon proper following up of the good impressions. We endeavor to aid discriminating users of soaps in the very important and difficult task of proper selection. Every intelligent person who read the AMERICAN SOAP JOURNAL and possesses the book, "American Soaps," knows there are reasons for making the many varieties of soaps described in books dealing with the manufacture of soaps and describing toilet requisites. We endeavor to impress the importance of proper selection by this cut: No. 284.

Following up the idea of selecting, we refer again to picture above (No. 385) and explain, as the tree growing there divides into branches, then into twigs, etc., so are soaps divided into liquid, semi-liquid, cake, and granular forms; and each of these divides again, according to



Cut No. 284.

the raw materials employed, the more or less care and time give to their preparation, etc., etc.

Every refined person, who has observed the fact that

in order to keep a gentleman's head in proper condition, at least four distinctly different soaps are needed, appreciates pointers given for proper selection. No one who has ever tried to use a god *tooth* soap for shaving, or shampooing, or face washing, or vice versa, will doubt the value of an experienced guide, all the more so, if he or she never demanded intelligent advice from retailers. It is interesting to make the test. Ask in the best equipped soap stores, which soaps are best for certain conditions; you will get an answer, of course, but just analyze the replies, if you inquired into the why and how, and yet the efficiency of soaps depend very much upon the way they are selected and used. There is a great waste of energy, time and material, because so little real knowledge about correct washing prevails. We endeavor to impress the importance of proper selection and use by the cut 325, which means a wise person, thinks while he or she acts. We use the expression "A Sage" frequently, in order to remind people that we wish ASCAGE to be pronounced like a sage, the "sc" as in "science."



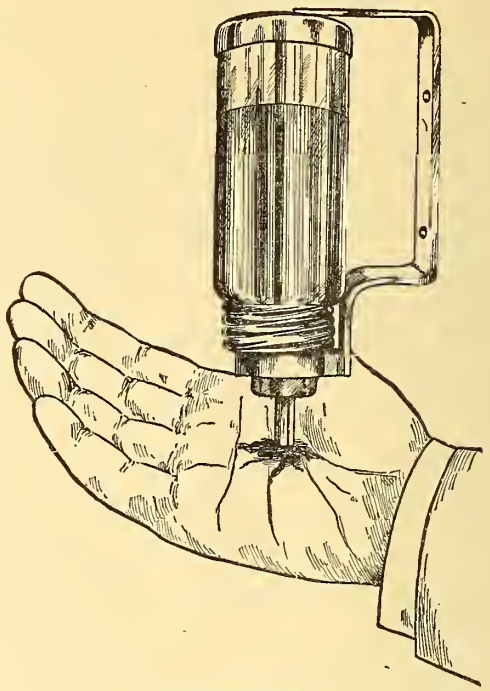
Cut No. 325.

It pays to shed more light on the subject, at least in the long run, and especially when once that long-talked-of Soap Manufacturers' Association is formed. Much good work can be done by it in the direction here outlined.

Co-operation, the hobby horse of the writer, is the only way to permanent success.. Hired help will never do the kind of work needed to elevate the standard of quality. Ideals are made and followed voluntarily. The greatest work of humanity is not done under compulsion, as our works of art, our charities, etc., testify. Organize! soap manufacturers of the United States, and with united efforts, at the expense of the organization, enlighten the public by what means people may be made happier and more comfortable; life more enjoyable; health, beauty, vigor, longevity, be increased through the use of well-made and properly selected soaps!

Besides advertising, verbal explanations, combined with demonstrations, are excellent aids for selling soap. Illustrate the action of various kinds of soap something like this:

From a container of liquid soap, constructed something like this, screwed on the wall above the wash basin (Cut 378), draw a measured quantity (10 to 20 drops)



Cut No. 378.

into your hand, by simply pushing up the rod; massage same into the dry skin; the liquid disappears, penetrates into the depressions, recesses, pores of the skin; there dissolves, loosens, detaches everything not belonging on healthy, clean skin; then add water gradually; this causes the soap contained in the skin or in the fabric (if clothes should be used to demonstrate), to decompose, not unlike baking or Seidlitz powder when water is poured on; the kneading and rubbing (indispensable when *every* kind of dirt is to be *removed*) does the same to the minute particles of waste matter as the spider does to the fly when he entangles the latter in the meshes of his net; that is, undesirable matter is wrapped up in soap films, air is incorporated in the soap solution by kneading and rubbing, and the lather which forms, lifts everything up and out, to be rinsed away subsequently.

You have thus demonstrated the great principle of scientific washing. In the ordinary way of working down from *above*, by smearing on soap and rinsing it off again as quickly as possible, sterilization of the skin or fabric is impossible; a concentrated soap solution must penetrate under the "dirt" and *work up* from *below*. This latter method is the *science* of washing.

Liquid soaps are made for quick work. They have more *chemical* action than the semi-solid kind which requires more mechanical help, more kneading and rubbing. The cake form is too well known to need any other explanation excepting how the various raw ma-

terials, the perfumes, make-ups, etc., make it possible to produce a large variety of this kind of soaps, as well as of all others.

In the absence of the proper explanation, many persons, among them doctors and scientists, are firmly convinced that their skin does not bear the use of soaps, while the actual truth is, they have never been advised *which kind* of soap the peculiar state of their skin demands. Because the public demands quick results, the soap manufacturer makes his soaps to fill the demand, and quick acting, fast lathering soaps are not borne by everybody. Specializing, Individualizing, must become the watchword of progressive soapmaking, especially of those kinds used on the human skin. What food and drink are for the stomach, soap is for the skin. The artiele which comes in closer connection with a person than does the water in his bath tub (water does not penetrate, soap does) needs to be better understood and appreciated, and a soap manufacturers' organization would be the proper body to undertake the task.

Should the readers of the JOURNAL desire to know how we apply the principles above outlined to the various classes of users, what arguments we use to make families, druggists, department stores, manicures, ehiropodists, etc., etc., buy our goods in preference to those made in enormous quantities. ("Mix brains with your work" has been the advice of a famous person when he was asked how to succeed in life. Go and see whether there are enough "brains" lying around loose where *quantity* counts more than *quality*, to go around?)

We are ready to furnish the details of the arguments we use in some future issue of THE AMERICAN SOAP JOURNAL, if a desire is expressed to know more about the details of the "tree' Ascage, of which we have above drawn the outlines.

Something About Toilet Soaps.

WRITTEN FOR THE AMERICAN SOAP JOURNAL BY KARL HEILBRONNER.

Though much has been written in trade journals on this subject, I believe it worth while to still write on it again. Even if I should bring forward nothing new, the following may contain some usefult hint or other for some readers.

Beginning with the more eommon toilet soaps, those made by the cold or by the half-boiling method: Simple as is the proeess of manufacturing a soap in the cold way, it ought and must have a greater degree of attention to details than is now accorded it as a rule. Especially the large firms are remiss in this respect, and many cases of deductions from bills, or return of goods, eould be avoided by timely consideration of this one point.

For a pure cocoanut oil soap we must have a purified oil, a clear lye made of high-grade soda, and a erutcher with a rounded bottom. I mention the latter because, especially in some large faetories, cold soap is still made in many eases by running the oil directly into the frame and then adding the lye. But even the most carefully closed frames are not proof against some leakage of oil and later of some lye; besides, it is impossible to crutch so as to thoroughly get the lye out of the corners of the frame, and in these places the combination between fat and lye will always remain imperfect. As a result a soap made in frames soon looses its perfume, turns rancid, or whitewashes strongly. On the other hand, in a kettle with rounded bottom no lye can collect at the bottom, as the crutch readily penetrates to every part of the kettle contents when there are no corners, and mixes everything with absolute uniformity. A fourth requirement is an exact scale for weighing off the materials, of course.

The cocoanut oil, Cochin or Ceylon, must be purified before use, and many different ways are employed to precipitate impurities and to saponify the free fatty acids present more or less in every lot of oil. The more thoroughly the oil is freed from fatty acids, the better will be the resulting soap.

A good indication of this is observed during the crutching of the oil and lye, the longer crutching the mixture requires, the smoother will be the resulting soap, proving at the same time that the oil contained but little free fatty acid. On the contrary, a rapidly forming soap of grainy consistency during the mixing, points to a large pereentage of free acids in the oil.

Another point of importance is the temperature; cocoanut soap should be made, in the warm season especially, by crutching the oil as cool as possible; that is to say, in summer the oil should be at a temperature of 81-83° F., in winter, 88-90° F. For filled soaps it is best to purify the oil, as the resulting soaps keep better and take the filling better.

A formula for a pure cocoanut oil soap is:

Cochin cocoanut oil	700 pounds
Soda lye, 38°	358½ pounds
Water	12½ pounds

For a soap of improved texture, a few per cent. of potash lye are substituted for an equivalent quantity of soda lye; this increases the cost somewhat. Examples:

Coehin oil	630 pounds
Soda lye, 38°	298 pounds
Potash lye, 38°	52 pounds

or,

Cochin oil	630 pounds
Soda lye, 38°	255 pounds
Potash lye, 38°	105 pounds

If silicate of soda filling is added, only soda lye should be used, however. For making soaps in which the amount of silicate filling used is considerable, the half-

boiling process is preferable, as in the cold process a large amount of silicate readily causes a degree of heat which is detrimental to a good result.

Used in moderate amount, silicate of soda is the best kind of filler, as it possesses detergent properties of its own. Other fillings are made of sugar, salt, pearl ash, sal soda, etc., in solution. A formula for such might be:

Pearl ash.....38 pounds, 7 ounces
Sal soda 24 pounds,
Salt 25 pounds, 9 ounces

Dissolved in 400 pounds of boiling water; use after settling till clear. Of such filling up to 100 per cent. (of the stock) may be used in cold soaps; but the more of it is used, the smaller must be the frames employed, for too large frames cause overheating, in consequence of which the solutions may easily separate.

A formula using 50 per cent. of such filling might be:

Cocoanut oil 100 pounds
Soda lye, 38°..... 52 pounds
Filling as above..... 50 pounds

The filling in this case is added (slowly and during brisk crutching) as soon as the soap begins to thicken.

Following are suitable formulæ for shaving soaps:

Best, clarified tallow (140° F.).460 pounds
Best cocoanut oil (140° F.)..... 47½ pounds
Soda lye, 38° B.....126½ pounds
Potash lye, 38° B.....126½ pounds

or,

Tallow 300 pounds
Stearin 75 pounds
Cocoanut oil 75 pounds
Potash lye, 38°.....135 pounds
Soda lye, 38°..... 90 pounds

For transparent glycerine soap there follow herewith several formulas giving soaps of three different grades. This class of soaps requires the most particular attention, exact weights, and pure and clear fats and oils, if the product is to turn out and remain for a long time beautifully clear. A chief consideration in the next place is thorough saponification. It is best, therefore, to add the lye at 140° F. to the stock, crutch till the mass starts to thicken, cover the kettle, and await the generation of spontaneous heat. When the kettle contents are uniformly clear from top to bottom, then is the time to add the solutions, etc. A steam-jacketed kettle is the best apparatus for this work.

First quality:

*Cochin oil 50 pounds
*Tallow 34 pounds
*Castor oil 17 pounds
*Glycerine 14 pounds
*Soda lye, 38°.....53 pounds
*Alcohol 32 pounds
**Sugar 21 pounds
**Water 15 pounds
**Pearl ash solution, 28° B..... 8 pounds

*All these at 136° F.

**The last three ingredients at 170° F.

or,

Cochin oil 40 pounds
Tallow 27 pounds
Cochin oil 154 or 144 pounds
Soda lye, 38° B.....40½ pounds
Alcohol 23 pounds
Sugar 20 pounds
Water 20 pounds

Cheaper formula:

Cochin oil 150 or 144 pounds
Tallow 150 or 144 pounds
Castor oil 60 or 112 pounds
Soda lye, 38° B.....200 or 230 pounds*
Alcohol 128 or 65 pounds
Sugar 112 or 108 pounds
Water 128 or 90 pounds
Glycerine 10 pounds

*36° B.

The above formulas are understood to be subject to a temperature of 130° F. in the more alcoholic case and of 140° F. where less alcohol is used.

A formula using no alcohol at all, would be:

Cochin oil 76 pounds
Tallow 60 pounds
Castor oil 74 pounds
Soda lye, 38°.....108 pounds
and Water 10 pounds
Sugar 60 pounds
and Water (190° F.)..... 64 pounds
Soda crystals 20 pounds
Filling (as below)..... 20 pounds

The filling in above is made by dissolving:

20 pounds of sugar.
11 pounds of pearl ash.
12 pounds of salt, in
80 pounds of water (hot),
Letting settle, and filtering.

Obituary.

John B. Kirk, first vice-president of James S. Kirk & Co., and the second oldest son of the founder of the firm, died at the Walcott Hotel in New York City of pneumonia last month. Mr. Kirk and members of his family started east Oct. 15 for a pleasure trip.

It was to be Mr. Kirk's first vacation of any length in five years, and he wished to spend a few weeks in Gotham. En route he caught a slight cold and pneumonia developed, but there had been no great fear of

his death until late Monday night. His home was in Evanston, where he had resided for many years. The remains will be brought from New York as soon as possible and the funeral arrangements probably will be announced this afternoon.

Mr. Kirk was in excellent health when he started East, and the news of his demise was heard with surprise and deep regret both in Evanston and Chicago, where he had been a prominent figure in social, commercial and educational circles for a quarter of a century.

John B. Kirk is said to have done almost as much toward the upholding of the big soap business of James S. Kirk & Co. as did his father, the organizer of the company. At the age of 17 young Kirk came west from Utica, N. Y., with his family. He was born in Utica, Nov. 8, 1842, had received an excellent education in the city schools and was planning to enter the medical profession when his father decided to settle in Chicago.

This entirely changed the trend of his activities, as he immediately undertook to obtain a full understanding of his father's business. He studied chemistry so as to know what soapmaking meant, and he took a course in bookkeeping so as to become familiar with that end of the firm's affairs. Having served this apprenticeship he was taken into the firm as a partner.

He rose rapidly thereafter. His financial training received recognition when, in the '80s, he was elected vice-president of the American Exchange National Bank of Chicago, and, in 1890, was elevated to the presidency of that institution, and held the place for four years. While directing with his father and brother the management of the soap company and the affairs of the bank, he still had time for other work.

He had been an active Methodist for years, and naturally fell into place as a leading adherent of Northwestern University. He was made trustee of the University, and followed its fortunes with added interest from year to year. He provided an annual prize of $100 for the encouragement of elocution and oratory—the Kirk prize competed for annually by members of the senior class. He also studied the Roman languages faithfully and became adept in the use of French, Italian and Spanish and in the translation of Latin works.

Mr. Kirk's best fame is declared to rest on his unostentatious charities, however. His special wish—amounting almost to a hobby—was to assist deserving young men whose purses were empty and prospects poor. He never failed in such an instance to give relief, encouragement, and valued assistance. This was particularly true of young graduates of the institution of which he was one of the directing minds.

Mr. Kirk was a member of the Union League, Chicago, Glen View Golf, Evanston Country and Evanston Golf Clubs. He was seen little at most of the clubs, however, and while he gave much of his time to his business, to charity and educational matters, he was a great lover of golf and spent many afternoons on the links. The robustness of his sixty-two years was credited to this out-of-door exercise.

He was married in 1866 to Miss Susie MacVean, daughter of D. MacVean of Chicago. The Widow and the following children survive him: Mrs. Charles Champlain and Susie Kirk, daughters, and Dr. James M. Kirk, son.

The Adulteration Fiend.

Demons, when roused, are proverbially hard to lay, and this particular one, although it has so frequently been chased, run to earth, and exorcised, has a faculty of starting up again where least expected, and in such angelic guise, that it is no wonder the very elect are for the time being lulled into false security, and flatter themselves that their lively adversary has at last been laid to heel. He is no respecter of persons, and makes for the humblest calling in the land as smilingly as for the largest, and with as little compunction. His latest victim is the poor washerwoman. With his usual suavity he has been standing at her elbow watching her labor day in and day out at the wash that cleansed not and the linen that refused to bleach. But the Analyst was on his track with relentless energy, and, having discovered his adversary, has closed with him the magic cry of "Glauber's Salts!" and his latest coup is, let us hope, destined to speedy failure. Let the Analyst (Mr. Alf. W. Stokes, F. C. S., F. C. I., Public Analyst for Paddington) speak for himself: "Hearing," he says, "that a large quantity of soda, generally used for washing purposes, has been sent over from Germany which was adulterated your inspector procured nine samples from the Paddington shops Two of these were found to contain 53 per cent. each of Glauber's salts, and one of them as much as 70 per cent. of Glauber's salts. On applying to a magistrate for a summons, he refused to grant one on the plea that soda is not a food or drug. But soda under the name of carbonate of soda (the very same article), is prescribed by the British Pharmacopœia for internal administration. It is true that any one intending to swallow soda would buy it at a druggist's, and not at an oilshop; but then those suffering from rheumatics often use soda externally as a cure, and then buy this from the oilshop. Pills, ointment, Epsom salts, sulphur, etc., all used as drugs, are also supplied by the oilman. It is a question also whether, as viewed as a cleansing agent only, soda is not a curative agent, since cleanliness and health are so near allied. Glauber's salts are quite useless for cleansing purposes, and quite valueless for the uses to which soda is applied.

It is a disgrace that poor washerwomen should toil fruitlessly through the use of such materials, wasting money and time on such frauds, without any remedy. The clothes of the public, too, suffer from the use of a material that will not wash."

Now we have it on good authority that good washing soda should contain 98 per cent. of carbonate of soda, and not more than 2 per cent. of some other ingredient, which is generally sulphate of soda. What, then, can be the effect of a compound consisting of from 53 to 70 per cent. of "Glauber's salts," which, as is well known, is a trade name for sulphate of soda. Sulphate of soda, or "Glauber's salts," has the contrary effect upon water to that desired, as it hardens it, and when used in excess actually prevents it from cleansing, as it interferes with and checks the action of the soap. Could anything be more diabolical in its effect upon the health and strength of the hard driven washerwoman, who would seem to stand a helpless victim to this "cruel and heartless fraud," for it appears that the only remedy to hand is to proceed against offenders under the Merchandise Marks Act for "false trade description"—a long and costly process, beyond the reach of the ordinary sufferer. It has been stated that some English firms deliberately adulterate the soda, and, considering that the wholesale price of genuine soda is £3 per ton, while sulphate of soda is only 24s. a ton, it is easy to see why such adulteration is practiced. But there is room for hope that the fraud may not much longer be tolerated, as it enters, it appears, into the domain of one's daily food, soda being largely used for cooking purposes, and also for spraying potato plants when affected with blight. Here, too, the fraud is a heartless one, as where the adulterated article has been used in spraying, the effect has been nil, and the crops have been destroyed. On all these grounds, therefore, it is obvious that it is a case where government action should speedily be taken, and the offenders in such a monstrous fashion be severely brought to book and punished as they so richly deserve. —English Contemporary.

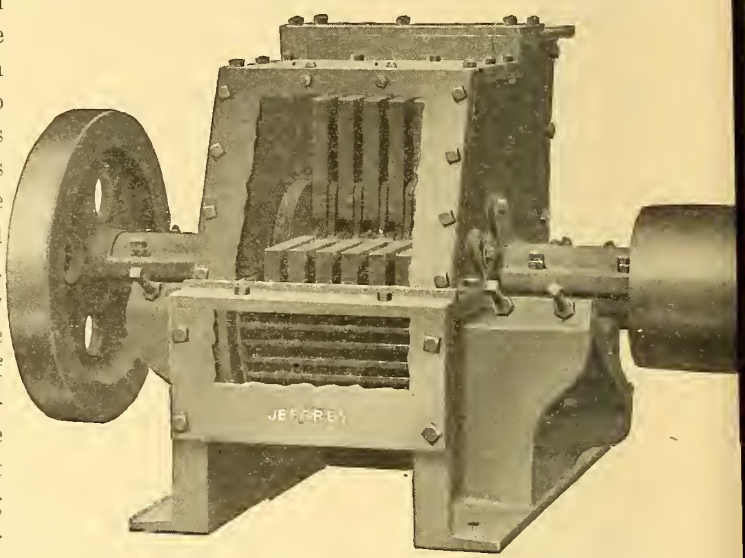
Duty On Bottles.

The protest of F. R. Arnold & Co., of this city, for a lower rate of duty than that assessed by the collector of the port of New York on the bottles containing an importation of alcoholic perfumery was overruled by the Board of General Appraisers. The collector assessed a duty of three-fourths cents per pound on all bottles of more than one pint capacity, under paragraph 108 of the act of Aug. 28, 1904, and admitted free of duty those of one or less than one pint capacity, claiming authority for his action a decision of the board rendered in 1901. The importers claimed that the bottles holding more than one pint were properly dutiable at 40 per cent. ad valorem under paragraph 61, while those of less capacity at one-eighth cent per pound, under paragraph 88. The board decided against the protestants on the evidence submitted and on the authority of the previous decision of the board above referred to.

The Jeffrey Hammer Pulverizer.

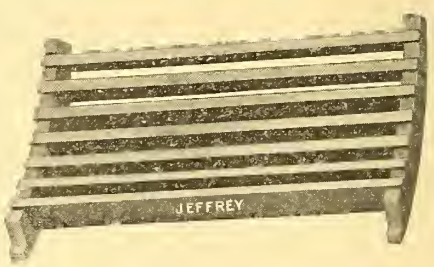
The manufacture of this type of pulverizer has recently been taken up by the Jeffrey Manufacturing Co., of Columbus, Ohio, being made under the Schoellhorn-Allbrecht patents acquired by it.

The one illustration shows the pulverizer with its interior, or crushing parts; the others show the sectional



screen frame which is one of the special features in this machine.

It is designed for crushing and pulverizing materials such as coal, clay, shale rock and other materials. The manufacturers claim it to be the simplest machine of its kind made. Strong features are its simple beater hammer, its "V" shape bar screening surface, its simple adjustment of the beater arms to accommodate wear, its



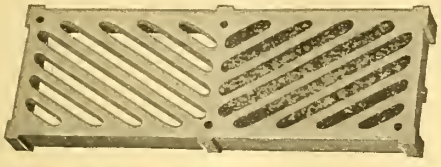
feed hopper, insuring large capacity and permitting material to be partly crushed while in suspension; all of which go to make the machine as nearly perfect as can be made.

The accessibility of its inner parts is also one of its strong features. The taking off of the rear plate and

the hand hole plates on the side of the machine make it possible to change the beater arms as well as the screening surface when necessary.

The screening surface is made up in sections, so that it is the work of but a few moments to take out or change from one size mesh to another.

Many of these machines are in use, so there is no experimental period to be gone through with. It is made in many sizes to suit the various requirements—for



instance in coal the capacity varies anywhere from fifty to one hundred tons of coal per hour, depending entirely upon the degree of fineness. In pulverizing material such as rock, its capacity is anywhere from ten to twenty-five tons per hour.

The Jeffrey Company make free crushing tests for interested parties, thus demonstrating before sale what the machine is capable of doing. Complete catalogue on this subject can be had by addressing the manufacturer.

Treasonable Symbolism.

Speaking to the Bible Lands Missions Aid Society at Exeter Hall recently, the secretary related how, on one occasion, the Turkish authorities would not allow a chemistry book to be printed at the society's press because it contained a sign. Pointing sternly to "H²O" (signifying water) the censor said that the "H" undoubtedly stood for Hamid, and the "2" made it Hamid II., while the "O" represented the Sultan as being a nobody.

Launching Ships By Margarine.

From times immemorial tallow has been used in the government yards at the launching of ships to grease the "ways" on which the vessel glides down from the building yard to the water. By a recent order of the Admiralty, margarine is to be used for the purpose in future.—Oil and Col. Journal.

It Was The Soap.

There were many good points about 'Liza, a young colored woman who until recently was maid of all work in a Harlem flat. Indeed, there was so much in her favor that her mistress was prone to overlook the ordering of extra chops which she carried home to her husband, and the mysterious disappearance of half rolls of butter and loaves of bread. There was trouble, however, when the lord and master of the flat discovered some shirts which did not belong to him on the family line one Monday when he was kept from the office by illness.

"Who belongs to those red, green and yellow monstrosities that resemble shirts and hang on our line?" he asked his wife.

She did not know, and in turn asked 'Liza.

"Dey ah beautiful shirts," beamed the colored woman. "Dey shure do look han'som' on mah man."

"Dou you mean to say you do your husband's washing in with ours?" gasped the Harlem woman.

"An' why not, I'd like to know?" demanded 'Liza, equally amazed.

"Well, never mind why not," said the mistress, "but you must never do it again."

That might have settled it if 'Liza had not had an idea. She came into the parlor later in the day, all smiles.

"I know now," she said, "it's the soap."

"It's the what?" asked the matron.

"It's de soap you mind me usin' on mah husband's wash. After this I'll brin' mah own soap clear from home."

'Liza is looking for a new job.

A Notable Factory Plan.

(The following is from one of the two pamphlets received by the American Soap Journal from Jos. Crosfield & Sons, Ltd., England, and referred to editorially in this issue.)

PREFACE.

In the autumn of 1903, a first edition of this pamphlet was issued.

The second edition, a fuller and more detailed one, comprises a still further basis for improvement in the mental, moral and physical condition of the work people of Joseph Crosfield & Sons, Limited, and also records the success of the methods employed, some of which were a year ago only in a rudimentary state.

The past year has witnessed many innovations and it is very gratifying to observe that the desire to work out a scheme for the benefit and advancement of a large number of people has met with ready response and appreciation, both inside and outside the works.

The aim of the policy outlined in this pamphlet is to promote the well-being, physically and morally, of all connected with the firm.

Recent statistics show that there is a marked and serious decline in the fitness and consequently in the capability of the class of people who are wholly dependent for subsistence on their bodily labor. Out of every three men presenting themselves for enlistment, two are rejected on

the ground of physical unfitness. These men are not only unfit to fight their country's battles, but totally unable to fight their own daily battle for existence. The conditions of much modern employment are against healthy bodily development. Manufacturing life concentrating large numbers in small areas gives but little opportunity for outdoor exercise. This and the general lack of cleanliness make for physical deterioration.

The purpose of this pamphlet is to point out and to emphasize as strongly as possible how great is the power which large industrial concerns have at their disposal for remedying this state of affairs by providing the necessary means for promoting the health of their workpeople and by generally improving the conditions of employment.

In proportion as this is accomplished, social reformers believe the question of labor will assume a different aspect from what it does at the present time. The workman, instead of being bound to a task which is repugnant and which necessity compels, will find the daily routine of work a part of his educational development and his daily task will become a pleasurable duty. The perfected idea of labor may then be brought about as thus described by a well-known economist:

"Work should be the spontaneous expression of a man's best impulses."

NOTES ON SOME IMPROVEMENTS AT BANK QUAY SOAP AND CHEMICAL WORKS, 1900-1904.—1. Every person, who has been in the continuous employ of the firm for 15 months on April 1st, is allowed a week's holiday with full pay, during the summer months, the choice of date being left as much as possible to the individual. The conditions for these holidays, based mainly on punctuality and regularity, have each year till 1903 been made more stringent, yet the percentage of work people obtaining them has each year increased.

1900..57 per cent.	1901..63 per cent.
1902..66 per cent.	1903..77 per cent.
1904..84 per cent.	

Leave of absence from work, at other times, is always allowed if sufficient reason is advanced.

2. The works furnish a complete company to the Warrington Volunteer Battalion. Every encouragement is given to managers to become volunteer officers, and during the past six years eight officers from the firm's staff have joined the local corps, two of these serving in the South African war. Every volunteer is allowed to go to camp each year for the full fortnight, the firm paying full wages for one week and the difference between the wages and the regimental pay for the second week. The men in the Works' Company are further allowed to put in an hour's drill per week during working hours at the firm's expense. Arrangements are being made for different departments to furnish sections to the company, and thus to introduce friendly rivalry. As an illustration of satisfactory progress it may be mentioned that at the 1904 Brigade Camp on Salisbury Plain the brigadier, after his inspection, said that "I" Company (the Works' Company) was the best in the battalion.

3. The directors, managers, foremen and a large number of the men are members and ardent supporters of the National Service League, being convinced that universal national service is very desirable in the interest of all manufacturers, as it would improve the nation physically and mentally and create and develop in all classes a desire to serve the community. The firm has sent a circular to all the principal manufacturers with whom it deals, enclosing a copy of the National Service League Journal, which contains articles pointing out these advantages, and has asked them to become members of the League. As a result of this several have already done so, amongst others the influential firm of Messrs. Lever Bros., Ltd.

4. The main brigade consists of 40 men who are chosen on account of the nearness of their homes and their ability to discharge fire brigade duties. Twenty of these are permanently on the main brigade and the others are passing through a course of instruction in fire duty. After training, these men go out into the works as auxiliary men and others take their places on the main brigade, thus gradually giving all the workmen some idea of fire service. This system has answered well, first aid having been rendered effectively in many cases. The fire brigade is affiliated with the National Fire Brigaders' Union, and this year the annual tournament of the North-Western district was held, on the firm's invitation, in Warrington and proved a great success, the smart appearance of the brigade evoking praise from the inspecting officers. Service in the brigade is so arranged that any young man in the works may have a chance of joining. The leading fire offices connected with the firms' insurance have recently expressed their complete approval of the general arrangements of the brigade and its equipment. The appliances are of the best and most modern type and the drills are always of an interesting character, the result being that competition for membership is keen amongst the workmen.

GROWTH OF BRIGADE.—The brigade in three years has grown in numbers from 12 to 40 men who are regularly trained in the most up-to-date methods of fire fighting.

DRILLS INCLUDES

Steamer work, wet and dry.

Escape: rescue by shoot and by carrying down.

Rescue by jumping sheet and life lines.

Scaling by pompier ladders, etc.

OUTSIDE WORK.—Brigade attends all outside fires when requested, charging the ordinary fire brigade rates.

SHIELD.—A Challenge Shield has been given by the firm to the North-Western District of the National Fire Brigades' Union, to be competed for annually.

GIRLS.—All girls employed in the various departments are made acquainted as far as practicable with first-aid fire appliances.

MEN ON NIGHT DUTY.—Ten firemen are always in readiness in the works during the night.

LIFE INSURANCE.—When the brigade attends outside fires each member is insured by the firm against accident under the following scale: (1) Death or permanent total disablement, £200; (2) Permanent partial disablement, £100; (3) Temporary total disablement (not exceeding 26 weeks for any one accident), £1 per week; (4) Temporary partial disablement (not exceeding 26 weeks in any one accident), 5s per week. As regards accidents inside the works the men are entitled to the same benefits as they receive from ordinary injuries happening during the course of their employment.

(To be Continued.)

Oils and Fats.

Their Uses and Applications by J. Lewkowitsch, Ph. D.

In his second Cantor lecture, on February 1st, Dr. Lewkowitsch said that on the last occasion they saw how crude material, vegetable oils and animal fats were obtained from plants and animals. He also showed a series of whale oils and illustrated the manner in which animal fats were obtained. It was rather interesting to notice that as they went on working up the material the colour deteriorated, both as regards smell and regards the percentage of free fatty acids. Animal oils were easier to obtain in such a state that they could be used afterwards than vegetable oils. In their fresh state they were practically neutral, as we know, from the preparation of lard or from the preparation of dripping or suet. It is different with vegetable oils. Even in their fresh state they contain some moisture, and some remnants of vegetable matter which renders them turbid, dark and unfitted for immediate use, both for table and for manufacturing purposes. In the old times, the purification of such oils was allowed to be done by time, they were stored in large tanks and were allowed to stand until the impurities had settled down, and the oils had cleared themselves. In modern processes, where time is an essential object, it has been necessary to shorten the process, and therefore these oils are cleared by technical processes, such as sending them through a filter press or treating them with some material that allows a rapid filtering and rapid purifying.

Vegetable oils are obtained in a somewhat crude state. Here, for instance, is cottonseed oil, as it is expressed direct from the crushed seed by processes they discussed in the last lecture. These oils require refining, and each oil offers to the refiner a separate problem. Thus linseed oil is indifferently treated from cottonseed oil. Cottonseed oil is treated with alkali until at last by further washing it acquires its light colour. Another kind of cottonseed oil, which you see here, from Bombay, is not so easily refined on account of the natural impurities it contains in larger quantities than the first oil he showed them which represented an Egyptian oil. To run through the list would lead him too far, and therefore he could only point out that the samples which stood there—rapeseed oil, castor oil, fish oil, sperm oil—were refined by various processes. Each oil afforded a separate problem, and in order to refine it in the last stage to have it bright and clear it required to be filtered. In the first slide, he would show one of these filter presses which were well known. In the next slide they would see how the material was mixed up with such materials such as fuller's earth, in order to brighten up the oils.

For more expensive oils, such as edible oils, some more elaborate machinery was used but the same principle was adopted. Some of these oils were not sufficiently pure for the market after they had undergone this process of filtration, even assisted by fuller's earth and by charcoal. Hence, in order to further refine them, the oils have to undergo a process of bleaching. The oldest methods were to refine by means of sunlight. The oils were exposed to the bright sunlight and in the course of time the colouring matter in them became bleached. This process might appear somewhat antiquated, but, in special cases, it was even used nowadays. A case of this kind was artist's linseed oil, which was still prepared in that way. Another case was that of beeswax, which was still bleached by air and sun. Of course, for technical processes, this way of bleaching was somewhat too expensive, and they therefore must work rather quicker, and the methods he would mention, in the first place, was that of bleaching by air or ozone. To accelerate the process, it has been tried and successfully by means of oxygen, either in the form of ozone or in the form of air. Bleaching by chemicals requires great circumspection, the oil should not be destroyed, otherwise instead of brightening the oil very frequently it happened that the refiner obtained a much darker oil than he put in the vat. The minimum of temperature should be employed and the chemicals should be allowed to act in the shortest time possible. Two methods are general, bleaching by oxygen and by means of chlorine; ozone or oxygen gas was too uncertain. He had investigated several of these ozone processes, and although at the first moment they seemed to effect the bleaching, yet, after a time, the colour did darken, or speaking technically, reverted. A better means—manganese di-oxide—was employed in the bleaching of tallow. Chlorine was introduced, not as a

gas, because it would only lead to a much darker product. Chlorine was used in the form of bleaching powder or was produced by hydrochloric acid. He showed a number of examples which illustrated the methods he had mentioned. The cottonseed oil which they had seen in its dark state was thus refined for soapmaking purposes.

Another illustration of bleaching by chlorine was illustrated by the two samples of safflower oil Here, a product obtained by bleaching with chlorine showed an almost water-white color. Bleaching by bichromate was further illustrated by palm oil. This was one of the most extensively used processes in soap works. Not every kind of palm oil lent itself to the bleaching process and here were a number of problems which still required investigation. An oil that was easily bleached was Lagos oil, because it came down in the freshest state to the coast. Another palm oil was Old Calabar, a beautiful red, which, in the course of time by bleaching with bichromate becomes perfectly white. Not each of these oils lent itself to the process. Here was one kind of oil—Congo oil—which had so far resisted every attempt at bleaching. Bleaching by chemicals could only be employed in those cases where the oils were later on used for technical purposes. For table purposes, a subject he wanted to spend some time on, the oils could not be treated with chemicals. Bichromate or oxygen and so on would impart to the table oils a flavor which would render the oils unfit for table purposes. Only in the case of cottonseed oil a preliminary purification is permitted by means of caustic soda, but even there the greatest care ought to be employed so as not to leave a foreign taste in the oil which would reveal itself immediately it was used for table purposes. These oils which were intended for table purposes could not even be expressed in the hot. In the last lecture, we saw the way the seed was heated in a seed kettle. A process of this kind would not produce good oil for table purposes. The seed must be expressed in the cold, and such quantities as ran out at first were, after washing and filtering, sufficiently free from any peculiar flavor to be fit for the table. Theoretically, every kind of seed oil ought to be suitable for table purposes. For instance, in Russia and India they found linseed oil and rape oil, which would hardly be used for the table in this country. In other countries, South America, all kinds of palm nut oils were used in place of butter. They would see later on that a certain butter as prepared specially for the Indian market was produced in their own country, but after refining the oils they still required further treatment in case they had to be used as table oils. Of all the oils that they had seen, olive oil seemed to be the only one most suited for this purpose, but, of course, it was too expensive, and hence substitutes were required. Such an oil was earth nut oil. There were also oils belonging to the olive oil class, oils from Tunis, Algerian oils, which deposited stearine, and hence had difficulty in being sold in Marseilles and North Italy to be used there. Cottonseed oil, which had now come very much to the front as a table oil, showed the property of separating the solid mass which was called "stearine" to a very large extent. Here was an American cottonseed oil which seemed to settle the solid material to a quarter of the bulk of the total, a large scale process which was illustrated by this bottle would seem to be the simplest one. The oils were allowed to stand, and the clear oil separated from the fatty part.

In regard to those so-called "winter oils," modern processes had improved on the very slow and antiquated method of preparing winter oils and they were now in a position to rather rapidly prepare pure oils by freezing the oil in a refrigerator and then filtering off. He showed four samples prepared by a process of his own on a large scale, four edible cottonseed oils, from which stearine had been removed. The complete removal depended on the temperature at which the oil was allowed to freeze. This would show how they were able to prepare oils which can be mixed with olive oils and pass off as edible oils. Years ago, when a prejudice exited against cottonseed oil, this oil had to be introduced under all sorts of names because it did not dare to appear under its own name. Not all oils were suitable for edible purposes, for some of them retained the flavor of the plant or seed. An oil of this kind was maize oil. One of the most important industries belonging to the industry of edible fats is naturally that of producing margarine. This industry was at present still in its infancy, because butter was considered to be the table fat par excellence. At first, margarine was looked on with grave suspicion and popular prejudice connected it with all kinds of refuse oils and fats, and only 15 years ago an M. P. raised the greatest opposition to what he called the greasy rubbish of the world that he said was dumped down in this country. This prejudice was gradually disappearing now that margarine had come to stay. The foremost condition of the industry was the greatest cleanliness and the employment of the freshest and purest materials. The material was not only prepared from the freshest fat, but the product must be of an attractive and appetising appearance so as to fight its competitor, butter. The manufacturer of margarine was expanding, and especially in Holland it has found its home. The introduction of margarine should also be welcomed in that it had stayed the hand of the adulterators of butter, who formerly practiced adulteration in a very crude manner. Nowadays it was a fine art, and the manufacturer who adulterated had to be more refined in that he had to use judicious mixtures

of butter and margarine to deceive the public analyst.

The vegetable oils that were used for the purpose of margarine must be perfectly sweet, and have none of their original flavor. Hence an oil like maize oil was unsuitable for good margarine because of the special flavor that betrayed itself in the finished product. A better oil than even cotton oil was sesame oil, or lard oil. Cotton stearine also found a large employment in the manufacture of margarine. As he said before, the manufacture of margarine required the greatest cleanliness, and if he had to choose, all things being equal, especially the price, he thought he should prefer margarine to butter made in a dairy of doubtful cleanliness.

Passing on to the manufacture of another kind of edible fat, that of lard substitutes, this manufacture was similar to that of butter substitutes, although much simpler. Lard substitutes merely represented a mixture of fats. The basis of lard substitutes should be, of course, lard, but, in America especially, the manufacture had rapidly passed from pure lard to a mixture of lard with cottonseed oil, until, at last, products were put on the market which contained no lard whatever, but consisted of a mixture of cotton stearine and beef stearine. As the demand for lard, especially on this side of the Atlantic, increased, the quantity of pure lard did not suffice, hence other parts of the hog than the leaf were used until nearly every portion of the fat which the hog was able to yield was used in the manufacture of lard and lard substitutes. One of the most favored vegetable oils used in the manufacture of lard substitutes was cottonseed oil, and during the last decade legislation had stepped in to protect the public from obtaining a product which was certainly not indigestible, but was not lard and ought not to be sold at the price of lard. Hence such names as "refined lard" were gradually disappearing from the market and the product was now sold under fancy names. The detection of cottonseed oil in lard had become one of the most important objects to the public analyst and he would show them one of the color tests which had lately come into vogue. Too much reliance should not be placed on these tests since the adulterator always kept pace with the latest discoveries of science, and he had been able to mask even this test by preparing cottonseed oil in such a manner that it would pass this test.

He would now pass on to the last class of vegetable fats, which he wanted to deal with that night, namely, the chocolate fats. Naturally the true chocolate fat—cocoa butter—was obtained and prepared from the cocoa bean. This was not required in the manufacture of the finest and best chocolate, hence it had to be sold somehow or other, and large quantities of it were sold to chocolate manufacturers, with the result that more was made, but not to the advantage of the chocolate. Cocoa butter is rather too dear for the cheaper chocolate, and hence it substitutes of cocoa butter were required in the market. Animal fats would not lend themselves because animal fat seemed to have an especial flavor which would render the chocolate unsuitable for consumption. Hence, substitutes must be looked for in the vegetable kingdom, and at present there was being used palm-nut oil and cocoanut oil. Naturally only the freshest and best cocoanut oil commended itself for the purpose. This fat cocoanut oil was too soft to be used as a chocolate fat, it could only be used as butter substitute, and, in fact, large quantities were exported to India to be used there by the natives for butter as they were prohibited by their religious tenets from using animal fat. The trade had grown so that even in our own country large quantities were at present employed by confectioners instead of butter fat or lard. This product was on the market under a variety of names, all of which were more or less refined cocoanut oil. As the product was too soft for chocolate manufacturers, methods had been devised to separate it into two parts, a soft part and a hard part. The harder portion is that which the chocolate manufacturer required. He showed slabs of cocoanut oil stearine which was sold as chocolate fat. The great drawback to this material from the point of view of the manufacturer was that its melting point was rather lower than that of cocoa butter, and that would explain why so much of the cheap chocolate melted in the pocket or in the hand. The demand was therefore for a higher melting point, and in order to produce this it was necessary to express much more of the oleine than the manufacturer was willing to do, because the more he expressed it the greater became the cost of the product. Hence they had the feature that this product was in its turn being adulterated in order to stiffen it, and they had a number of chocolate fats which represented cocoanut and stearine stiffened up with a little tallow which should not be in or with other products, such as Japan wax, pariffin wax, which latter was indigestible. Here was a large industry which was in its infancy, and other oils would have to be found which would, on expressing, yield much harder fats. He had dwelt on this portion of the matter at such length because in text-books so little was said about it and popular prejudice militated against the manufacturer which might or might not have its illegitimate excrescences. Therefore, he thought it necessary to lay emphasis on an industry which ought to become important. Quite as much margarine as was imported into this country was manufactured here. The manufacture of vegetable oils was growing. No less than 10,000 tons of cocoanut oil had been consumed on the continent last year in the shape of vegetable butter or chocolate fat.

In his third Cantor lecture, on Feb. 8, Dr. Lewkowitsch said in the industries they had been considering last week, it was of the greatest importance to have the

edible oils and fats free from fatty acid which militated against their being consumed as edible substances. In the industries which they would consider that night, the importance of the absence of free fatty acid was not so considerable. The demands of purity of these oils, which they would consider, were less rigorous, although, for a number of industrial processes to which they were put, and especially those processes which he should consider in the first part, a certain absence of free fatty acid was important. This was necessary in the case of oils used for illuminating purposes. It might strike them as an anchronism when they had gas and electricity that there should still be a demand for burning oils, yet their consumption was by no means inconsiderable. Up to the middle of last century, *i. e.*, up to the advent of paraffin oils, burning oils, such as olive oil and rape oil, were in great demand, and were largely used for illuminating towns and houses. Even now, in Norway, they saw whale oil used for illuminating purposes. Nowadays very large quantities were still required for burning purposes, and a number of oils which they saw there on the table, namely, whale oils and seed oils, were eminently suited and in great demand for illuminating lighthouses. Railway companies still used large quantities of burning oils; in this country, rape oil, in Italy olive oil, in the United States lard oil for burning on their railways, and illuminating signals. In this case the amount of free fatty acid must be small. The oils must be carefully refined or otherwise the wicks would easily clog up. He need only mention the fact that on railways some lights were required to burn a certain number of hours, to show the importance of proper refining of these oils. Another class of oils which also required somewhat careful refining was that of lubricating oils. They had tallow oil, olive oil, lard oil, rape oil and sperm oil, although the latter did not fall strictly within the class of substances he was speaking of, being, chemically speaking, a wax. Before the mineral oils appeared on the market, the fatty oils which they were considering were used exclusively for lubricating purposes. Now, through the cheapening of the mineral oils, they were used to a preponderating extent, but still railway companies used in addition fatty oils, and even in this country certain railway companies used almost exclusively rape oil. It was somewhat anomalous in this connection that India nowadays exported all her rape seed in order to import the oil extracted from it for lubricating purposes.

Oils suitable for lubricating purposes belong chiefly to the class known as non-drying oils. Semi-drying oils, or cotton oil and maize oil, and drying oils such as linseed oil were unsuitable, as they easily clogged, gummed, and would naturally prevent proper lubrication. At one time cottonseed oil was largely recommended as a lubricating oil, but, since it had found other outlets, maize oil was being recommended instead, although, for the reasons given, it was totally unsuitable. They had, in the market, any amount of mixtures which were termed by the trade "blends," consisting of material oils and lubricating oils, and, although each blend was supposed to have its own virtues, those who had anything to do with blends would know that as a rule they were paying far too dearly for what they got. Still, a certain admixture of fatty oils with mineral oils might be suitable, because, although fatty oils decomposed in the solution, the mineral oil seemed to dissolve the iron substance and wash away and prevent formation of those hard lumps that were found in steam cylinders and other machinery lubricated exclusively with fatty oils. One oil, castor oil, was a lubricating oil par excellence on account of its viscosity. It was still being used for belting of high speed machinery such as dynamos. The high price which castor oil had some years ago led to imitating its particular property of showing high viscosity, by the introduction of so-called "blown" oils. The process of manufacturing these blown oils was kept secret at first, and, as they simulated castor oil in some properties, they were introduced in the market under the name of soluble castor oils. Their manufacture was simple enough. Certain oils, suitable for the purpose, especially those belonging to the class of semi-drying oils, cotton oil and maize oil and certain kinds of blubber oil were blended, as their name indicated, with oxygen. He showed a machine in which the contact with the air was rendered greater than in the ordinary apparatus, so that the oil was made with the largest amount of oxygen, and in a shorter time acquired the high specific gravity which was required from blown oil. As to the value of blown oils for lubricating purposes, opinions, even of experts, were still conflicting. The oils certainly did not deserve the high praise which was bestowed upon them.

Another industry he would touch was the industry of paint oils. The paint oil, par excellence, was linseed oil, samples of which he showed them. The price of linseed oil was two years ago, exactly double that at present, so that substitutes were introduced. Naturally, only these oils could be considered which were nearly related to linseed oil, and which simulated linseed oil in absorbing a certain amount of oxygen and exhibiting the property of drying to a thin film or a nearly elastic skin on exposure to the atmosphere. Naturally, with the present low price of linseed oil, the stimulous to introduce other oils in place of it had disappeared, still, when the turn of the wheel came round and prices rose again to prohibitive rates, then other oils may come into the market and attract the attention of the manufacturer who had to supply a certain article

at a low price. Paint oils were used for different purposes—from printing pictures down to painting doors and iron girders. For artists' oils linseed oil had to be treated in a very careful manner, and, in refining the oil, those processes must be used in which, as mentioned last week, the oil was attacked as little as possible. Hence the oil used for the paintings was bleached by exposing it to the sunlight and letting it run over shallow surfaces exposed to the sunlight until a pale colour was obtained. Semi-drying oils were unsuitable for paint oils, and although maize oil was being advertised as a paint oil, it was not suitable for this purpose, as it would not dry and give the hard skin as linseed oil did. The valuable property which drying oils possessed was their power of absorbing oxygen. Linseed oil would absorb in a few days, if exposed in a thin surface in dry weather, up to 20 per cent. of oxygen, and especially in sunshine would dry to a fine elastic skin. In order to accelerate the process of drying, means were employed to impart to the linseed oil such properties that the drying required a shorten time, as no one would like to wait nowadays two or three days before a painted gate or a door would dry. One required oils that would dry in six or eight hours. Although 200 years had elapsed since the process to impart this property to linseed oil was known, it was still unexplained how linseed oil acquired the property of drying more rapidly. Formerly, oil boiling was one of the mast dangerous processes, and hence the industry was generally relegated to the outskirts of a town. It was not known yet what change the oil underwent. At first it was thought that the oil became oxidised and the glycerine in it became burned up, until it was proved that the boiled oils still retained their full complement of glycerine. Later on it was thought that the metallic oxides were acting as oxygen carriers which transferred on the oil a certain amount of oxygen, so that the full amount of oxygen that they were able to take up was absorbed in a much shorter time than the three days they had mentioned. Due to this oxygen theory was a number of so-called ozone processes. Linseed oil was treated with ozone, and it was said that these oils were as good drying oils as those prepared by the boiling process. He had investigated several ozone processes. These oils showed on chemical investigation that they were very little different from ordinary oils. The view that the oil had to be boiled to a high temperature in order to dissolve the oxygen carrier had been shown to be erroneous by the modern process of preparing these boiled oils. The high temperatures that were formerly necessary, such as 220° C., were no longer required. At present oils could be boiled at a low steam pressure of two or three atmospheres, in an apparatus such as he could show them. The temperature could still be further reduced by using modern driers, such as the so-called liquid driers, which had recently come more to the front. These liquid driers were sold under various fancy names and a good deal of secret mongering went on in this trade. One of the best known terebene imparted the property of boiled oil to linseed oil even if the oil was boiled only up to 150° C. But even this process seemed to be too expensive for some people, and the Americans had an expedient which they called "boiling oils through the bughole." (Laughter.) They simply put the liquid driers into the barrels. He mentioned this to show that the theory of how oils dried was still unknown and that they were almost as ignorant about the process now as they were two hundred years ago. The only suitable explanation that might be ventured was that the oils became polymerised, that some internal change was going on. The molecules gripped one another and acquired higher density or higher specific gravity. This process went on in the preparation of so-called lithographic varnishes. The use of these lithographic varnishes was easily explained if he merely uses the two words "printing ink." Undoubtedly a certain amount of polymerisation went on in order to produce the higher specific gravity. Solid linseed oil formed the basis of linoleum manufacture but he could not stop to consider that industry but must pass on to one or two others. If they substituted sulphur in the drying process, the sulphur was taken up by the drying oils in a similar manner to oxygen, and the oils became the so-called vulcanized oils. The products formed elastic jellies known as indiarubber substitutes. They were easily prepared, and he would demonstrate to them how the manufacture of them was carried on. The oil was simply mixed with sulphur chloride, and, on stirring it up, a semi-elastic mass was produced. The most suitable oil which would give the substitute in the cold was castor oil, and it was for that reason he had chosen for his experiment castor oil. Castor oil some years ago was too expensive for this process, and cheaper oils, such as rape oil and linseed oil, were used. If they considered that the whole manufacture practically consisted of having a barrel in which the oil was stirred with sulphur chloride, they would understand how this industry had acquired great importance, so that at present the sad state in which we found our indiarubber tubing and similar articles was explained by the very easy way in which they were prepared. The last industry which time permitted him to touch was Turkey red oils, which formed a transition from those industries in which the chemical change the oils underwent was very slight to those industries in which the disruption of the fat-molecule took place. Turkey red oils were "soluble" oils, and simply consisted in dissolving castor oil in concentrated sulphuric acid. By adding caustic soda or ammonia, these oils acquired the property of dissolving in water.

He was now passing to those industries in which the

fatty molecules underwent a breaking up into disruption into those parts of which the fats and oils might be considered to be composed, *i. e.,* glycerine and fatty acids. By far the largest amount of oils and fats was used in those industries which they were going to consider, namely, the candle and soap industries. He was afraid that in dealing with these industries he would have to become somewhat theoretical. The lecturer then showed slides showing the formulæ for mono-glycerides, di-glycerides and tri-glycerides. The discovery of mixed glycerides was referred to. What vista of new researches was thereby thrown open would be too far for him to consider. The manufacturer was only concerned with the products of saponification and did not concern himself whether they were simply glycerides or mixed glycerides. In considering the process of converting triglycerides into fatty acids and to glycerine, he said new processes might be based upon the view that the reaction took place in three phases. If that was so, then it ought to be possible, by chemical means, to show the existence of the intermediate products.

(To be continued.)

Bribery of Employes.

The practice of bribing the employes of customers to use only the goods made or sold by those offering bribes is an evil which has apparently extended to many industries in Germany and has grown to such proportions that efforts are now being made to bring about a reform. As this is a practice quite common in several trades in this country, the following articles which have appeared recently in the German press and were selected by the Oil, Paint and Drug Reporter for illustration, will be read with interest here:

(Translation from Frankfurter Zeitung.)

BRIBERY OF EMPLOYES.

The growing evil of paying bribe money to employes has been repeatedly pointed out in the Frankfurter Zeitung. It has almost become a custom that employes who attend to the ordering of materials from supply houses, examine and introduce them into manufactories or recommend them to their superiors receive bonuses from the firms delivering such supplies. The custom has gained such proportions that the paying of bonuses or bribe money is publicly advertised. There appears for instance, the following advertisement in a trade journal:

"Employes of industrial establishments may earn considerable money by introducing lubricating oils, fats, packings, as well as other technical manufactured articles."

This is a direct bid to employes to become dishonest and means unfair advantage over honest firms engaged in delivering supplies to industrial concerns. The employe owes complete allegiance to his business and to his firm, and should not allow himself to be influenced by offers of money from outside parties. If he continues in it he stains and injures the reputation of the firm which he has agreed to serve and thereby becomes disloyal and dishonest. Against such practices manufacturers are powerless. The utmost secrecy is observed in these nefarious dealings.. Employes and superintendents have opportunities enough to discredit goods, for the purchase of which they have received no bonus; they can let them be so applied or used as will show comparative inferiority, or can make false reports to their chiefs about them, against which the latter have no protection whatever. The employes of industrial establishments have become completely corrupt; the material used becomes either worse in quality or so high priced that manufacturers and their customers suffer materially. Under certain conditions even competition is impaired; honest contractors lose their trade, and there are cases where concerns have lost their footing on account of these dealings and failed through the loss of their customers and the impossibility to regain new ones.

The nuisance has gained tremendous proportions. A number of manufacturers' associations have already complained of the critical state of things. But how can it be changed? It has been proposed to enter into contracts with supply houses, by which the latter bind themselves under a stipulated penalty or upon word of honor to give no bonus or make other provisions for employes. This course, however, is of no avail. Employes and supply houses consider bribery a custom in business that has come to stay. Where there are no contracts, considerations are held as something quite natural and where contracts do exist, they are ignored, and any conscientious scruples that may arise are smothered by the assumption that bonuses are unavoidable and made necessary by universal custom.

There is but one remedy, and that is legislative action. Acceptance of presents and other considerations and the offering of them by contractors must be prohibited by law. Then every one who bribes or allows himself to be bribed is culpable and cannot excuse himself by saying that it is purely a business proposition. The evil, as said above, has gained such proportions in Germany that in the interest of the public, as well as that of legitimate business, the state should proceed against it. Not only in Germany has it become a custom but also in foreign countries, and to such an extent as to have invoked the power of the law. In the United States steps have been taken, and in Massachusetts a law is already in operation. In England a movement has been in progress for quite some time to insure legislative protection, and a bill is under advisement by several legislative bodies which has even been considered by the commit-

tees. It might probably be of interest to state here the principal points of the proposed act. They are as follows:

"If a representative with unfair intentions accepts or receives a present or consideration, or agrees to accept or endeavors to obtain such present or consideration for himself or for another, for the encouragement of or a reward for the commission or omission of any act with respect to the business of his principal; or having shown favoritism or disfavor to a person with respect to the business of his principal; or if anyone with unfair intentions gives or offers a representative for the encouragement of or as a reward for the commission or omission of any act with respect to the business of his principal; or for having shown favor or disfavor to a person in respect to the business of his principal; or if anyone intentionally delivers to a representative a receipt, bill, or any other writing, in which the principal is interested and which contains a wrong or misleading, or in any one important point, an unsatisfactory statement is used, with his knowledge and consent, for the purpose of misleading the principal, so shall it be considered a crime, and in case of conviction before court be punishable with imprisonment, with or without hard labor, up to two years, or with the payment of a fine not to exceed five hundred pounds, or with the stated imprisonment and also stated fine, or by summary conviction be subject to imprisonment with or without hard labor not to exceed four months, or with a fine not to exceed fifty pounds, or both these penalties."

(To be continued.)

PATENTS AND TRADE-MARKS.

The following list of recent Patents and Trade-Marks is reported by W. G. HENDERSON, Solicitor of American and Foreign Patents and Trade-Marks, Norris Bldg,, Washington, D. C. A copy of any of the following will be furnished by him for 15 cents.

TRADE-MARKS.

43,536. Certain named Perfumed Preparations. R. & F. Schweickhardt, St. Louis, Mo. The word "Violacynth."

43,560. Soap. National Soap Corporation, Boston, Mass. The word "Radium."

43,617. Perfumes and Toilet Water. Mulhens & Kropff. New York, N. Y. The word "Marquise."

43,653. Soap. Reiss & Brady, New York. N. Y. The word "Nopeer."

43,668. Perfumed Soap. L. T. Piver & Cie., Paris, France. The word "Safranor."

43,669 Certain Named Toilet Preparations. L. T. Piver & Cie., Paris, France. The word "Azurea."

43,686. Perfumed Soap. L. T. Piver & Cie., Paris, France. The word "Azurea."

PATENTS.

774,172. Recovering glycerin from spent soap-lyes. William E. Garrigues, New York, N. Y.

PRINTS.

1,134. Title, "Reuter's Soap. Get a Lily-and-Rose Complexion." (For soap.) Barclay & Co., New York, N. Y.

AROUND THE SOAP FACTORIES.

News-items sent us by our readers will find prompt attention in this column

The buildings formerly occupied by the Schultz soap factory at Zanesville, Ohio, have been sold by the Procter & Gamble Co., who had recently bought them, and if present plans are carried out they will be used for the manufacture of a wrapping machine. Efforts are being made to organize a company for the latter purpose.

Incorporated: The Silk City Soap Works, at Paterson, N. J., to manufacture soaps. Capital, $50,000. Incorporators: Jos. Formanns, Alfred G. Stumpf, Bellair; I. G. Van Houten, Paterson.

The H. L. Hemingway Company, of New Haven, Conn., has been chartered to engage in building rendering, tallow, glue and fertilizer factories and to sell or lease or operate same. The capital is $20,000. The promoters are Eliza T. Hemingway, of Montowese, and O. H. Hemingway and Lucien Sanderson, of the Sanderson Fertilizer & Chemical Co. of New Haven.

Articles of incorporation were filed last month by the Carpo Soap Company, of Decatur, Ill. The capital is $2,500. The incorporators are Bernard Bradley, L. W. Cook and Frank L. Horn.

The Home Soap Co., Detroit, has filed articles of association with the secretary of state; capitalization $15,000.

New York, Nov. 15.—The sheriff yesterday received an execution for $5,941 against property of the Moore Company, dealers in soap at 288 Greenwich street, in favor of Henie Liebeskind. The sheriff put a keeper in charge of the stock.

E. W. Kirk Co., of Chicago, Ill., with $500 capital, has been organized to manufacture soaps and scouring products. The incorporators are Edgar W. Kirk, T. L. D. Kirk and M. B. Miller.

The Bullsferry plant at Shadyside manufacturing vanillin and coal tar products, was wrecked by a terrific explosion on Nov. 1, and Superintendent A. S. Hammer

and John Kowarsch, a workman, the only ones on the premises, were almost instantly killed. The chief owner of the works is A. Klipstein, of 122 Pearl street, New York.

By the dismissal of the injunction suit brought against the city of Chicago by the Co-Operative Grease & Soap Co. before Judge Brentano, the fight of the Archer Improvement Association and other citizens in the neighborhood of the proposed rendering plant resulted in final victory.

The Schwarzschild & Sulzberger Co. has bought the Reardon rendering works, at Boston, Mass., and will enlarge same and begin soapmaking at once. This company, besides doubling its pork house capacity at Kansas City, will increase its canning department.

The old deserted soap factory building at Geneva, N. Y., was set on fire by the spark of a passing engine last month, but the fire was extinguished without having done much damage.

A. Brayshaw, C. C. Brayshaw and R. W. Brayshaw are named as incorporators in papers filed with the secretary of state in Springfield, Ill., asking for letters of incorporation for the Mexican Amole Soap Co., of Peoria. The concern is organized for the purpose of manufacturing and selling toilet preparations, and its capital is $20,000.

The tallow factory at West Toledo, O., owned by Nicholas Rassel & Sons, was burned recently with a loss of $15,000. The insurance is about one-third the loss. The cause is not known.

Mrs. Charles Silverton wife of the vice-president of the Eureka Soap Co., of Cincinnati, died Thursday from heart trouble at the home of her father, A. Schmidt.

The Imperial Soap Co., of Atlanta, Ga., is a new concern which will make a soap which will wash and dye goods at the same time.

Fargo, N. D., Nov. 2, 1904.—H. J. Metcalf, of St. Paul, was in the city yesterday looking over the ground with a view of establishing a soap factory at this point, if he could make the right kind of a deal. He says that he has had experience in the business and believes that a factory could be made to pay here if conducted on business principles. He is going to make a tour of the state and see what the chances are for having material shipped in here. Mr. Metcalf states that if he starts here at all he will build his own factory and will branch out with the intention of getting a big bunch of northwest trade. Mr. Metcalf expects to return here in about a month, and if he can make arrangements which are satisfactory he will begin operations about the first of the year. He wishes it understood that he is not after any bonus, but is after a straight business proposition.

Elgin, Ill.—The Mineral Soap Company, a corporation capitalized at $25,000, and employing forty men, is seeking a location here.

New York, Nov. 1, 1904.—Work is under way for the proposed big soap factory for B. T. Babbitt & Co., near Fairview. Railroad tracks have been extended out into the meadows from the Susquehanna road and a large pile driver is now in operation.

Kansas City, Mo., Nov. 8.—The first step in the plan announced by the big packers at the time of the recent strike of concentrating their business in Kansas City, in preference to turbulent Chicago, and to make additions to their plants here, instead of there, as they had done heretofore, is about to be taken. Swift & Co. have announced their decision to add to their plant here a huge soap factory, a cannery and a can-making plant, the whole to cost upwards of $250,000. Work on this series of additions will begin at once, and it is hoped to have them in operation in the spring. The buildings will be on the site of their present plan in Armourdale, and adjacent to it, and will be operated in connection therewith.

The direct cause of this increase to the Kansas City packing plants is the difference in labor conditions here and in other centers and especially in the way strikes are handled. Though Kansas City, divided as it is by a state line, is naturally worse off than are self-contained cities like Chicago, yet its control of the big packers' strike was better than any other, and, in fact, the way the strike was handled here, the packers believe, led to its breaking elsewhere.

The Kansas City (West Armourdale) soap plant of Procter & Gamble is now getting fairly under way in its actual operations, and one by one the different departments will fall in line. According to the Kansas City Star, many of the employes (in the beginning of November) "were unable to secure houses near the factory. Some are living in tents along the bluff north of the factory.

"Most of the 1,000 men and women who will be employed by the plant will be obtained here. Only a few heads of departments and experienced soap makers will be brought from the main factory in Cincinnati. The factory is located a half mile from the nearest car line.

When the West Kansas avenue bridge over the Kaw river is finished most of the employes will probably live in Argentine, as it will be much closer to their work than the bluffs north. Last summer many houses were built in West Armourdale and along the bluffs across the railway tracks from the factory. These houses are now occupied and others in process of construction are already rented.

"The Rock Island railroad is building a large yard not far from the factory and several hundred men are now employed there. These men are also seeking homes in the district."

Elliott W. Davis, manager of Kingan & Co.'s soap department, met a sad and untimely death at Indianapolis last month, by being thrown from a horse which he was riding near his home. He was within a few days of his thirtieth birthday and had been with the firm ever since he was fourteen years old, working his way up from the position of office boy by force of his own merits. His employers and his associates in the firm sincerely mourn the loss.

Additions to Our Brand List.

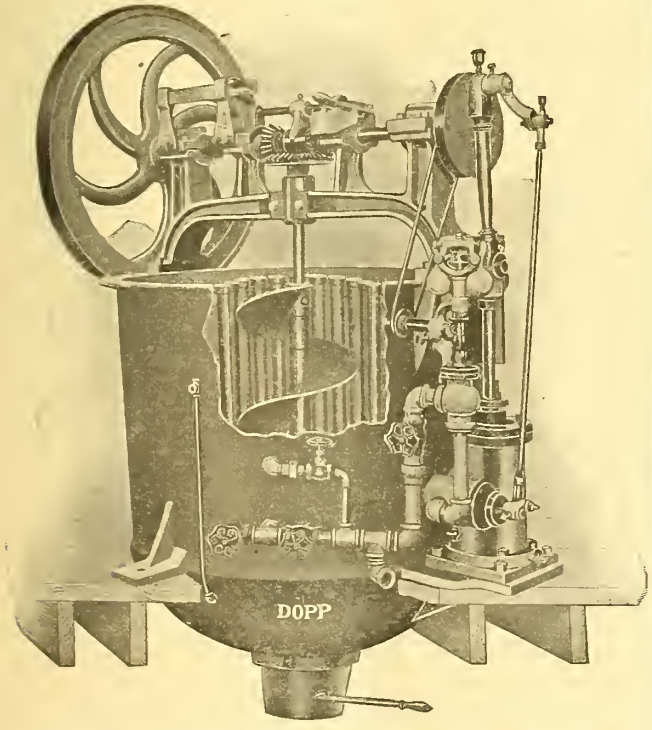
Dolly Varden — A. W. Wilwid & Co., Newark, N. J.
Oleo—Germ. Amer. Soap Wks., New Orleans.
Power Soap — F. Martin, Columbus, Ohio.
Radium—Natl. S. Corporation, Boston.
Strawberry Juice Transparent Glycerine S. No. 202 — Frazer Soap Co., Chicago, Ill.

Angelo Olive 54
Aroma de Clavel 54
Boro Myrr 54
Clavel 54
Cu-Te-Na 351
Four Leaf Clover 54
Gasene 106
Glyco Tar 54
Golden Dragon 54
Gold Medal 106
Individual Toilet 54
Keno 106
Koko-Oil 54
Kold-Wata 54
La Fiesta 54
Magno 106
Osmosis Soap 4
Prismal 106
Radio 106
Savon Fleur de Lis 54
Spick and Span 106
Stellar 106
Trix 54
Veg-Oil 113

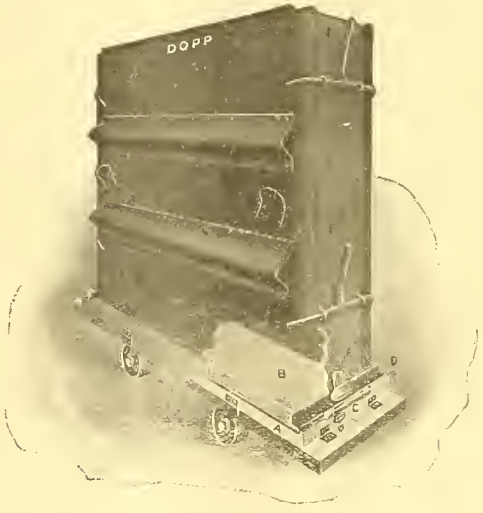
The attention of our readers is called to the column of

"WANTED" AND "FOR SALE"

advertisements on another page. Manufacturing firms looking for intelligent up-to-date help, or who have second-hand machinery they wish to dispose of, and practical men experienced in any branch of manufacturing chemistry looking for employment, can mutually profit by using this column.



Dopp's style "B" remelting engine driven crutcher. The engine is 18 H. P. capacity, so that, by the installation of this combined crutcher and engine, it is not necessary to have any other power, as the crutcher is provided with proper belt and shifter for driving line shaft, to which can be belted, pump, chipper, elevator, etc. Shipped all over the world. Sold on their merit.



Dopp's style "D" frame. This frame is similar to our style "B" but with a new and improved bottom. There is an extra bottom or cap board "B" over the regular bottom, against which sides and ends are held by binders "A" and "C." Binder "C" is capped with an angle iron "D" which laps over and holds binders "A" in place. Latch or cam "E" holds end binder "C" in place. This arrangement does away with all bolts and nuts and makes a particularly tight frame.

Hook plates and fifth wheel trucks, which have been used for twenty years, furnished when desired.

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NOTE: This list is compiled with the greatest possible care, but the publisher does not assume any responsibility other than to correct and to complete the list according to data obtained from official sources or furnished by the trade. Brands registered in the patent office as trade-marks or labels are given with the name of the party registering same. Brands or names marked * are those which were found to be used by more than one firm or the owner of which could not be ascertained. ☞ SEE THAT ALL YOUR BRANDS ARE ENTERED IN YOUR NAME.

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The Latest Complete Edition of Our

List of Soap Brands

was published on Jan. 1st, 1902. All new brands and changes that have been reported since that date are contained in the "Supplementary List" published on another page of this paper.

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AMERICAN SOAP JOURNAL,

2707 North Avenue, Milwaukee, Wis., U. S. A.

Wanted { Soapmaker, Chemist, Manager, Office Assistants, Salesmen!

Above is the usual style of advertising if a soap-manufacturer needs help. We too, need Assistants, but the results of advertisements similar to the above have proven so unsatisfactory that we finally adopted the new style of searching for the needful, which, by this time, is familiar to careful readers of this publication.

The assistants we are looking for should resemble the tree in this picture, they should be willing to remain and grow in the garden of ASCAGE (A Sage)



Most of those looking for positions however prefer the Lettuce, where but a few weeks elapse between sowing the seed and harvesting the crop.

¶ The conditions in the Soap business now-a-days are such that the "systematic" way of doing things as practiced by big corporations, need all those who "lettuce like" (notice the different kind of plants in above picture) are after "quick results" (these usually come sooner than they expect and are more "lettuce like" than they wish them to be.) We are searching for those with principles like our own—to *grow*, slowly and surely but permanently like the fruit bearing tree in above picture. ¶ As we insist upon a number of old fashioned qualifications of those with whom we desire to work, such as being steady, faithful, sober, workers, of good character and habits. We do not try to find them by means of the ordinary "Want Ad." We have no time to correspond with the many applicants who answer such ads. in the ordinary, superficial manner. If you feel like co operating with us, write us in a manner which shows you realize that all kinds of business *is* complicated, Soap making and selling especially, and that shutting ones eyes to this fact, does not *make* matters more simple.

Further particulars will be given upon addressing

Geo. A. Schmidt Co., 405-407 North Avenue Chicago.

The American Soap Journal & Manufacturing Chemist.

A MONTHLY JOURNAL OF THE MANUFACTURING CHEMICAL INDUSTRIES.

DR. HENRY GATHMANN, Publisher.
2707 North Ave , Milwaukee.

MILWAUKEE, WIS., January 1, 1905.

VOL. XV. No. 5.

THE AMERICAN SOAP JOURNAL AND MANUFACTURING CHEMIST.

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OFFICE OF PUBLICATION:

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The AMERICAN SOAP JOURNAL AND MANUFACTURING CHEMIST is devoted to the interests of all manufacturing industries of a chemical character, and is an absolutely independent publication. It is the only newspaper of its kind in America and has also a large foreign circulation.

For Subscription and Advertising rates see above.

Communications on industrial subjects, news items, and any information suitable for printing in these columns, are solicited and will have due attention.

Readers in search of machinery, supplies etc., not advertised in these columns, are invited to write us and we shall endeavor to supply the information.

Address all communications to

DR. HENRY GATHMANN, Publisher,
2707 NORTH AVENUE,
MILWAUKEE, WIS., U. S. A.

We wish to call the attention of "whom it may concern" to the advertisement opposite this page.

A copy of the "Bulletin of the U. S. Trade-Mark Association" is before us. It is intended, henceforth, to issue this bulletin at regular monthly intervals, for the purpose of "furnishing to subscribers the latest information on all matters of interest relative to trade-marks, and to their protection in commerce."

A "subscription" to the Association (including a copy of the Bulletin) is $10.00 per annum.

If future issues of the Bulletin are as well edited as is the copy before us, they will be of great usefulness to all owners of valuable trade-marks.

A Happy New Year to all our readers.

To head off a constantly recurring query, we beg to state that only a *Supplement* to our brand list has been published since the *main list* appeared in book form in 1902. This supplement appears in this issue of the Soap Journal, as well as in all past issues. The cost of the main list is $3.00, prepaid.

As a large number of subscriptions for this paper expire at this time of the year, we take this occasion to invite prompt renewals.

A recent tragedy in soap circles is reported to us in the following account, from Newark, N. J., under date of December 2, A. D. 1904:

Louis Bloomer, a soap manufacturer, walked into the First Precinct police station this morning followed by a small, unkempt boy. To Sergeant Purcell, Bloomer said that the boy had agreed to work a week, but suddenly got sick this morning after two days of work, and wanted his money. When Bloomer refused unless the boy worked out the week, he says the youngster assaulted him!

"Go into the court room and wait for the Judge," said Purcell.

Several minutes afterward Bloomer rushed out excitedly to the desk and said the boy had escaped.

"He skinned out of the court-room door like a flash," said Bloomer.

Policeman Riley was sent out with Bloomer and soon had the boy back in custody again.

To Judge Sweeney the boy gave his name as James Santaminna, of 43 Sheffield street. He denied assaulting Bloomer. The court told the complainant to bring witnesses. He told the boy to go home meantime.

* * *

When a "small, unkempt boy" gets sick at his work, and is justly refused his pay for the amount of work he already did, it is high time that the majesty of the law protect the employer against assaults from the said "sick, small, unkempt, boy." We hope to hear in due time that the small, sick boy has been made an example of.

The Secretary of the Manufacturing Perfumers' Association of the U. S. has issued a notice to the members, to the following effect:

I beg to remind you that the next annual meeting of the Manufacturing Perfumers' Association will be held Wednesday and Thursday, Feb. 1 and 2. At this meeting many matters of vital moment to our industry will come up for discussion and action, and it is extremely important that there be a full attendance, so that all sections of the country may be represented and participate.

As usual, the meeting will be held in New York City, and one of the objects of directing your attention to it thus early, is to enable you to make your business arrangements in advance, so that nothing may interfere with your being present.

As the reports show, our membership is usually well represented at these meetings, and the keenest interest is taken in the discussions. Nevertheless, there are members who do not attend—possibly a few who have never attended; and it is from this class that we occasionally hear—Why has not this, that, and the other been done? Why have we never accomplished so and so?

My answer to these and similar queries is this:—Attend the meetings in person; participate in the discussion; make known your suggestion; vote and have others vote upon them. In this way, and only in this way, can the most effective results be achieved—the most perfect harmony of action be obtained. In a financial way, this effective and harmonious action will amply repay for the time, expense and labor devoted to securing it.

In due time, the regular formal notice will be sent to you, giving hour and place of meeting; and accompanying it will probably be interesting details regarding the program projected by the Entertainment Committee.

At previous meetings, eminently satisfactory results have been accomplished; but, as everyone knows, large bodies move slowly; and while the results so far achieved have been of marked value, there is still very much important work to be done that will require the attention and support of our entire membership. It is vital that these matters be discussed now.

A full attendance at the coming meeting will prove of incalculable benefit to our industry, through enabling us to take concerted action, if thought advisable.

The valuable work that has been accomplished by our Legislation Committee alone has more than repaid every member ten times the amount of dues that he pays annually. (Read Report of Committee on Legislation, page 38, 1904 Proceedings.) There is no telling at what moment there will crop out in Congress an annoying and disagreeable law that will affect us materially; it is therefore necessary that the sharpest watch be kept upon legislation.

Kindly give this circular your very careful consideration, and make your plans to attend this meeting. Yours very respectfully,

JAMES E. DAVIS, Secretary.

An importation of finishing soap by W. L. Macomber & Co., of Boston, was the subject of a decision by the Board of General Appraisers, upholding the protests of the importers. The merchandise had been returned as an alizarin assistant not specially provided for, and a duty of 30 per cent. was imposed thereon. The importers contended that the merchandise came within the provisions of paragraph 72 and was properly dutiable at 20 per cent. ad valorem. The board upheld the protest of the importers, being guided by a previous decision on the same article rendered in June, 1904, wherein it was held that finishing soap fell within the provisions of paragraph 72.

DISSOLUTION OF PARTNERSHIP.

The partnership of Adolph Melzer and Charles Melzer, under the firm name of Melzer Bros., has been dissolved. Charles Melzer retiring from the firm owing to continued ill health, has sold all his interests to Adolph Melzer, who will continue the business, manufacture of soap, without change of the firm name.

ADOLPH MELZER,
CHARLES MELZER.

FROM OUR CORRESPONDENTS

JOURNAL FOR CANDLE MAKERS.

Bruxelles, Belgium, Dec. 2, 1904.

American Soap Journal.

Dear Sir: You could perhaps name to us also the principal journal for the candle industry in the States.

Yours very truly,

STANDARD CANDLE WORKS.

* * *

[Needless to say that there is no such journal in this country. What little is published about candles occurs now in one and then in another paper.—Editor A. S. J.]

NOT ARTIFICIAL SOAP.

New York, Dec. 8, 1904.

American Soap Journal.

Gentlemen: Oh, run away and play! On your first editorial page of December Soap Journal you have made a mistake. It is the General Artificial *Silk* Co. which is in the hands of a receiver!

You very aptly remark after the paragraph: "Vat Iss?"

Yours truly,

THE HOLBROOK MFG. CO.

* * *

[Our thanks are due to the writers of the above for lifting the darkness from this incident. However, the mistake was not made by us; the report we had of the failure unmistakably (though mistakenly) said *Soap* instead of Silk Co. So also did the other report from the South, which told us of an enterprise employing a thousand hands, refer distinctly to a *Soap*, not Silk, factory.—Editor A. S. J.]

Russian, Turkish, Roman, Etc., Baths,

OR

AMERICAN SKIN CULTIVATION AND GERM ERADICATION.

(By HUGH S. A. SAGE.)

It is a queer fact that common things, even those which are of the greatest importance to everybody, which concern us most and are used by every member of each household daily, are least understood.

Had this essay been headed as a treatise on the science and the art of bathing or washing, you, dear reader, would no doubt shrug your shoulders and decline to pay any attention to an article with so absurd a headline.

If we accept the definition of the word "science," by that distinguished English scholar, Prof. Thomas H. Huxley, the President of the Royal and member of other prominent societies, as correct, we may come to a definite conclusion. He says:

"Science is, I believe, nothing but trained and organized common sense, differing from the latter only as a veteran may differ from a raw recruit. The vast results obtained by Science are won by no mystical faculties, by no mental processes other than those which are practiced by every one of us in the humblest and meanest affairs of life. The man of science, in fact, simply uses with scrupulous exactness the methods which we all, habitually and frequently, use carelessly."

This essay is the first attempt to show to the American public the scientific side of bathing and the editors of this paper except its readers will appreciate our endeavors to march at the head of the procession of progress.

During the last few years there appeared in nearly every newspaper in the land excerpts from essays written by various so-called authorities which warned against bathing. It is much to be regretted that no one ere this has taken up the gauntlet and tried to defend that old saying, "Cleanliness is next to Godliness'."

There are quite a number of easy-going people glad of an excuse to put off the duty they owe themselves and their fellow citizens, to exercise cleanliness of body, clothing and home.

It is the object of the writer of this essay to show why the baths above mentioned, which took their names from various nations, are often harmful, and how and why the *American* ways of skin cultivation and germ eradication increase health, vigor, beauty, comfort and happiness.

Ask yourself what role the nations, after whom the baths were named, play in the affairs of the world, and you may get an idea why we advocate *American* methods. We do not intend to argue the matter, if anybody should claim that it is only accidental that the Russians, Turks, Romans, etc., are not progressive. Wise persons, however, do not run any risks unnecessarily, and leave those unnatural, unscientific and antiquated methods of bathing to those who know no better. It is unscientific and unnatural to overheat the body in the bath and so force the heart to greater exertions, as is done by the Russian method. It is also against common sense to use the Turkish towel to produce a healthy glow, (which is equivalent to stimulating skin action) *after* the bath while drying the skin. It is further unwise to follow the Roman method of bathing and exercise the functions of the entire system at a time and under circumstances which make local application desirable.

American progress utilizes the experiences of those who have gone before and has built up, from the material they left, vastly superior methods.

The investigating American mind reasons thus: The use of soaps would not have become so universal and would not have been kept up so long a time, if there was not good cause for its employment. The trouble with old fashioned aids for the thorough removal of waste matter from the human skin, lies in the fact, that their *quality* has not always kept pace with the progress of the times. Realizing this, a number of American manufacturers have improved and are now making soaps which answer every purpose of thorough sanitary cleanliness; even the Turkish towel is superceded, its substitute possessing very important additional advantages. Modern aids do their work of beautifying

and purifying *before* a person goes into the rinsing bath; some of these improved soaps contain granulated mineral matter, whose fine points, rolling over the skin, knead and massage the delicate nerve ends, the tiny muscles which control the opening and closing of the pores, as well as the finest veins and arteries located in close proximity of the skin, and thus stimulate the circulation of the blood, and the activity of said muscles, which expel waste matter *at a time when the soapy solution is ready to surround each particle of secretion,* together with germs and microbes which invariably accompany waste matter, especially if the latter is located in so warm and snug a place as is offered by the recesses in the human skin, which are revealed by the microscope if the human skin is closely inspected. The entire process of washing with modern means, viewed under the magnifying glass (applied to your mind's eye), is not unlike the work done with the tool of the modern oyster fisher, which loosens the oysters from their bed, rolls them up into a net, so they may be brought safely to the surface. Old fashioned methods of skin stimulation by means of flat surface massage rollers also are as irrational as it would be to try and take up an old macadamized road bed, by rolling over it a steam roller; however, if steel prongs are inserted in the circumference of the wheels of the latter (steam roller), these sharp points dive into the macadam, and loosen it; in a similar way would the improved aids for the modern American bath loosen, in an exceedingly pleasant manner, the half detached shreds of skin, continually peeling off from every healthy person; then they surround and remove everything undesirable.

It has been argued that thousands upon thousands exist without bathing. We do not address our remarks to those satisfied with simple *existence.* We are aware that pigs exist and grow fat in filth. We endeavor to prove that energies may be saved and made useful for profitable work by relieving the system of the duties of combating the myriads of minutest foes which continually try to get the best of us; these latter form "the tooth of time" which is gnawing away at everything, and is sure to succeed sooner or later unless we destroy or remove the cause. Means which *destroy* the causes of, may be used for the preservation of *dead* things. For example, eatables, of vegetable or animal origin, are boiled and canned; that is, kept in hermetically sealed containers, so that air, or rather the myriads of bacilli, germs, which are present everywhere in the atmosphere, may not exercise their decomposing influence; or we add chemicals, salt, borax, etc., and spices in whose solutions or extracts germs cannot live, or we dry the material, because germ life needs a certain degree of moisture to thrive in. Wood is preserved by smoothing it and covering it with poisonous colors, such as white lead, etc. Metals are kept by polishing the surfaces and by frequently removing therefrom whatever gathers there. Many other methods of preservation might be mentioned, but this essay is getting too lengthy, so we will only call attention to the fact, that the living, delicately constructed human skin, performing important excretory functions, deserves and demands, if it is expected to continue to do its work properly, at least the same intelligent care and attention as is bestowed upon the "skin" of the earth. As the surface of the globe upon which we live, rewards our efforts in agriculture, floriculture and horticulture by an increased yield, so will American skin cultivation and germ eradication preserve energies, increase health, vigor and beauty, prolong life and make it more enjoyable by promoting comfort and happiness.

What the ax and the saw, the plow, hoe and harrow have done to spread civilization through the backwoods, what the spade, rake, weeder, etc., mean to field and garden, *rational* American Skin Cultivation and Germ Eradication are destined to do in future, for the preservation of Energies and to strengthen Endurance.

Impractical as solutions of chemicals would be to destroy undesirable vegetation, weeds and other pests, because poisonous liquids would also destroy the fertility of the soil, just as objectionable are many of the highly advertised toilet preparations.

"In the sweat of thy brow thou shalt eat bread," is not only true in regard to *soil* cultivation. Use "Brain and Brawn," when cultivating your skin. Don't imagine that *one* kind of "soap" can possibly answer every requirement. Bear in mind the *various* tools used for cultivating the earth's skin. Mankind's closest surroundings, the skin, needs *varying* treatment, as age, health, the seasons of the year, habit, etc., vary. Patronize therefore experienced, intelligent, reputable dealers, avoid fakirs, and use careful discrimination yourself while *using* toilet articles, observe directions accompanying the products of *reliable* manufacturers.

About farming and gardening it has been said "there is no one too high and no one too low to practice it." So it is with modern skin culture. The simplest minds and the deepest thinkers may find profitable employment studying and practicing it.

Brain and brawn must co-operate, however, to make it successful. Maker, dealer *and user* should work hand in hand to improve the coming generation, both in body and mind, by educating them to a cleaner comprehension of the principles outlined above.

If it is remembered that soaps come in closer contact with a person's body than does the water in his bath tub (because the latter does not penetrate, while soap solutions do more or less), then the intelligent ones will want to know more about the source and the actions of

that much used, abused and misused article—soap. There are dudes nicely dressed, elegantly perfumed, highly recommended among soaps as well as among persons, nice to look at, perhaps, but unfit for work. Avoid the frothy soaps also; to smear it on and wash it off quickly does not affect deep seated tenaciously adhering "dirt" and that is the most dangerous kind. Choose a brand which requires some massaging before it forms a lather. Use brain and brawn, do it yourself if you are well and strong. It is the very best of physical exercise to massage the entire body as above described, or get an intelligent attendant to do it, if you cannot do it yourself, the kneading and rubbing, with little water, at first just enough to make massaging pleasant, brings the sterilizing material *under* things to be removed. Continued massaging with a gradual addition of water, develops a lather which lifts up and out of the pores of the skin everything undesirable; after this a rinsing bath, and you will enjoy for the first time in your life, the exhilarating feeling of thorough cleanliness, the kind which is meant by "Cleanliness is next to Godliness."

Those who comprehend the above (repeated perusals may be necessary) will not only get healthier and stronger, but they will save money besides, as they never again will go back to the use of the Russian, Turkish, Roman, or any other unscientific kind of baths, because the American method is much more satisfactory, enjoyable and efficient.

A Notable Factory Plan.

(*Continued.*)

PANIC DRILL.—The girls are regularly drilled in the quickest way of leaving their department in case of fire, so that when small conflagrations have taken place, the rooms have been cleared in a few seconds without disorder.

5. An outside fire expert inspects the brigade, its apparatus and all the fire appliances throughout the works every three months.

6. The firemen have formed themselves into a self-supporting club for social, intellectual and physical recreation. At the weekly meetings papers are read and discussion held on subjects connected with fire brigade work and the evening concludes with physical exercises and drill in the gymnasium.

7. The Athletic Club continues to make steady progress. The Second Annual Sports were held on May 14 and proved a great success.

8. A Bowling Club, having a large membership, is a branch of the Athletic Club. The annual main took place on Saturday, August 13, and passed off very successfully. Entries this year were much more numerous than on previous occasions.

9. The Cricket Section shows a marked improvement this year, being in a flourishing condition. The season has closed and our team played 19 matches; winning 12, losing 5, and drawing 2.

10. During the last four years the Rugby Football Team has twice won the first prize and once the second prize in the annual Warrington Works' competition.

A Football Club, under association rules, has just been started.

11. Every lad in the offices or the works, whilst 15 years of age, is taught to swim. Two squads per week go during working hours to the Corporation Baths in charge of an instructor from the works. The time lost and the cost of the baths and instructor are borne by the firm. At the end of the season there will be competitions for prizes given by the firm.

12. During the year an Angling Association has been formed and already numbers over 60 members. The annual subscription is 6s, and by arrangement with the Warrington Angling Society, the Works' Association has the right to fish over 120 miles of water, including amongst other rivers, the Conway, Dee and Severn. The annual competition on August 27 was taken part in by 94 members.

13. The firm and managers support a brass band of 26 workmen, which has in the few years of its existence risen to be one of the best bands in the neighborhood. Since the beginning of 1903 eleven contests have been attended, and nine prizes won in competition with 124 bands. The firm provides uniform and instruments and pays the works' band master and a professional tutor on the sole condition that the members shall regularly attend practices.

14. There is a second brass band which serves as a school for the senior band. This junior band uses the set of instruments formerly provided by the firm for the senior band and is taught and trained by the works' bandmaster.

15. A male choir and a mixed choir have been formed.

The girls in certain departments are taught to sing part-songs and are encouraged to sing them at certain hours while at their daily work. The mixed choir has made good progress during the year and its public appearances have been very creditable.

16. Plans are now prepared for replacing the present temporary men's dining room with one for 500 men and another for 200 girls, each being complete, with baths, dressing rooms, library, and a reading room.

17. A room in the works is provided by the firm for use as a luncheon club for the directors and heads of departments.

18. The chapel which the firm provided for the workpeople and their children is now rebuilt with greatly

increased accommodations, mainly at the expense of the Crosfield family.

19. A few years ago the then chairman of the company (the late Mr. John Crosfield) erected, at his own cost, new and commodious buildings for a Sunday school, but so designed and equipped as to be available for an elementary day school of the most modern type. The buildings have been continuously used for both purposes since their completion.

20. In order to keep all parts of the works clean and wholesome, special men devote the whole of their time to this object and printed rules are posted in the works. Spitting, for example, is prohibited on pain of instant dismissal. All dust, soot, fumes and smoke are avoided as far as possible and the principal departments are now lighted with electricity. Girls, who work in places where dust is likely to occur, are provided with special uniforms and hoods.

21. The problem of how to burn large quantities of low-priced bituminous coal without smoke and with economy has been solved at the works. Before attacking this question a few years ago, the firm was frequently fined for emission of smoke, and if the methods then in vogue still obtained the weekly consumption of coal would be more than 100 tons over and above what it actually is. In fact, so successfully has the problem of smoke prevention with economy been solved that the works is known in the neighborhood as "The works with smokeless chimneys."

22. Hot water for drinking and washing purposes and also soap and towels are supplied free throughout the works.

23. The work possesses a Sick Club, which is self-supporting. During the year a Girls' Sick Club has been formed on similar lines to the men's. This also is self-supporting. At the request of the Men's Sick Club the firm have made it a condition of employment that no man, boy or girl is now engaged without passing a medical examination of fitness for their employment. The firm provides free a consulting doctor, and also subscribes to infirmaries and hospitals, in Warrington and Manchester, in order to be able to take full advantage of them for the benefit of its workpeople.

24. As a preventative of dysentery, during hot weather the drinking of cold water is forbidden in the works. Meal and water and tea (hot or cold) are provided free in every department. During the recent hot months of July and August 80 gallons of tea per day in the former and 120 gallons (over half a ton) per day in the latter month were distributed to the workpeople. The result in lessened sickness was apparent.

25. Special attention has been given by the firm to the mental development of the lads and girls employed. A few years ago it was found that only a small percentage of the lads in the works and offices made use of the opportunities offered in the town for their educational benefit in the shape of evening classes. Only 14 per cent. of those under 17 years of age were attending. To increase this proportion the firm offered to pay the fees for all courses taken, if 60 per cent. of the possible attendances were made, and further promised a money prize equal in value to the fees paid to all who obtained from their teachers a good report of progress and behavior during the session. This scheme raised the attendance in the next year to 38 per cent. of the lads employed. The scheme was now extended to all males under 20 years of age, and the result has been that in 1902-3, 73 per cent. of the lads and youths attended the evening classes.

Attendances.—1900-1, 14 per cent.; 1901-2, 38 per cent.; 1902-3, 73 per cent.

Having achieved such a good percentage it was decided that in future attendance should be compulsory for all lads under 17 years of age. Thus, in the last session every lad (with the exception of a few who live out of town) went to evening classes.

1903-4, 100 per cent. When "under 20" is the compulsory limit, lads who enter the firm's employ will have six years of compulsory schooling with repaid fees and an equivalent amount of prize money, as explained above. The director of education in the town has arranged courses for these students. In 1904, 80 per cent. of the lads attending put in over 85 per cent. of the highest possible attendances; 17 per cent. of the lads attending put in 100 per cent. attendances. During the summer two examination papers have been set for all lads under 17 to test their knowledge of everyday matters, one paper being done in the works and the other at home with any assistance they could get. The results have been curious and instructive.

26. No lad who has not passed the sixth standard is now taken into employment. If a lad has passed the seventh standard he starts work and continues at 1s. per week higher in wages than a sixth standard lad.

27. With regard to the girls employed the directors are desirous of removing certain deficiencies common to girls who work in factories. By means of the scheme of refunded fees and prizes girls are being induced to attend evening classes on two nights per week to learn needlework, dressmaking, laundrywork, cooking and domestic economy. Employing, as the firm does, several hundred girls, it is hoped in a few years, to effect a very great improvement in the homes of the workmen generally in this town. The attendance at these has been optional, but is now obligatory for all under 17 and optional for those over 17 and under 20. At the

end of the cookery course last sessions, all who had made 85 per cent. attendances entered into a competition promoted by the firm for three prizes for the best cakes produced from two set of recipes in which the firm's vegetable butter or "Veberine" had to be exclusively used. The evening class teachers, who conducted the examination, reported that they had great difficulty in awarding the prizes, so high a standard of excellence was reached by many. 73 per cent. of girls going put in over 85 per cent. of possible attendances and 20 per cent. put in 100 per cent.

28. No girl who has not passed the sixth standard is now taken into employment and those who have passed the seventh standard are employed in preference to those who have passed the sixth only.

29. Every person on completion of 25 years' continuous service with the firm is presented with £5, and anyone who has been 50 years continuously is awarded £20; these presentations taking place in the presence of the workpeople.

30. Each girl, who leaves the works to be married, receives from the firm a wedding present varying with length of service.

31. For general instruction, the firm is supplying from time to time courses of lectures on subjects of technical importance. For example, a course of lectures on electricity with practical demonstrations was given by one of the professors of electricity at the Manchester Technical School to those specially interested in this subject.

32. Lectures on popular scientific subjects are given by the managers to the workpeople every fortnight during the winter in the assembly room in the works.

33. Concerts, draught tournaments, smoking concerts and social evening are arranged for the winter. During the winter 1903-4 fourteen dances were held in the works' assembly room and over 2,000 attended, the music being supplied by the works' band.

34. The firm has arranged for the workpeople to elect a Workmen's Council. The object of this council is to collect, direct from the workmen, suggestions for the improvement of their surroundings, to sift these and to put the matured proposals before the directors for approval. The suggestions are not in any way connected with the terms of labor, but refer to the amelioration of the condition and surroundings of their daily work. The firm sent out representatives of this council to other firms to learn by inspection what the most up-to-date firms were doing for the moral and social improvement of their workpeople. During the year many excellent suggestions have been made and subsequently carried out by the firm.

35. The firm possesses an ambulance brigade, having its center near the chemical laboratory, where a complete supply of first-aid material is kept. All lads and men are encouraged to learn ambulance work and free lectures are given by a qualified doctor. During the spring, lectures for girls on ambulance and sick nursing, with practical work, were given and well attended.

36. Five years ago, the firm gave a challenge shield to be competed for by all corps in the No. 4 district of the St. John Ambulance Brigade. Col. Trimble, V. D., M. D., C. M. G., the deputy commissioner, states that this shield has stimulated, in no small degree, the interest in ambulance work in the north of England.

37. It has always been the firm's desire to reduce the hours of labor as far as possible, without diminishing the earnings of its workpeople, and it has been able to avoid very early and late hours in many departments. In these the men's time has been reduced from 10 hours a day to 9, while giving the men the same wages as they had before. The working hours per week in these departments are now 49½ (in some cases 46½) against the 55½ formerly. The girls' working hours have also been reduced from 55½ to 46½, while retaining the 55½ hours' wage.

38. The firm has tried profit-sharing schemes in a few departments and the success has been sufficient to induce it to extend the principal as far as possible. The schemes are adapted to the varying conditions in the different departments, but the main principle is that quality as well as quantity of output shall be considered in estimating the profits. In the box-making departments an average of nearly 20 per cent. on the weekly wages has been earned by everyone in the department during the year. Again, in the melting department, 16 per cent; in the soap-loading and warehouse department, 14 per cent, and in the bar soap-packing department 25 per cent. has been earned per week on the wages.

39. A library of technical books, journals, and best catalogues is provided by the firm for the technical staff, and here standard chemical works and the current papers on all technical subjects may be consulted.

40. A new gymnasium is now being provided by the Recreation Club for the workpeople. This will take the place of the former small one where the fire brigade and some of the workeople have hitherto exercised themselves.

41. The workpeople proposed that it be a condition of employment that 1d. per week per person be contributed to a fund for providing and maintaining a bowling green, a recreation ground for cricket, football, tennis, etc., and other means for rational amusement and social and physical recreation. The offices and the chemical laboratories have now become contributors and soon the present existing cricket, football, athletic and bowling clubs will be merged into this. The fund already amounts to over £100.

42. The adoption of the metric system in the works has been considerably extended during the year. Throughout the soap departments it is now universal and in many other departments it is almost universal.

43. In the offices the hours are 8:30 a. m. to 5 p. m. during spring, summer and autumn, with a holiday on alternate Thursday afternoons.

44. A weekly program of forthcoming events in connection with the Recreation Club and societies is published and posted at several centers in the works.

45. Amongst the questions of national character not having any direct bearing on the work of the firm, which have been actively supported, may be mentioned:

THE NATIONAL SERVICE LEAGUE—ALCOHOL FOR INDUSTRIAL PURPOSES.

The former has already been referred to elsewhere. In connection with the latter lectures have been given locally and in London before the Automobile Club of Great Britain and Ireland and work of a practical nature is being carried out on the important subjects of denaturants for alcohol. The firm are of the opinion that the growth of potatoes in Ireland on a large scale for the manufacture of alcohol, starch, glucose, dextrin and caramel, would aid in the agricultural and manufacturing development of the country and would at the same time serve as a food reserve for the British nation in case of necessity. It therefore seems reasonable that the government should aid and encourage the growth and industrial utilization of the potato as is already done in other countries less favorably situated than ourselves as regards internal food supply.

46. In order to better keep in touch with movements and suggestions relating to the social welfare of their workpeople the firm has joined the British Institute of Social Service, and intend to take an active interest in it.

CONDITIONS OF EMPLOYMENT.

1. During the first fortnight of employment the engagement is from day to day.

2. No person can leave employment until the expiration of a week's notice; such notice can be given any day.

3. All persons guilty of wilfully breaking any of these rules or of neglect of, or disobedience to the foreman's orders, or of improper conduct (including irregularity of attendance and wilful waste of time and material) may be dismissed without notice, at the discretion of the manager or foreman.

4. Any person leaving work without giving the above notice, and any person dismissed for neglect, disobedience of orders, or improper conduct, will forfeit all claims for wages unpaid at the time of leaving or dismissal.

5. It is a condition of the engagement of laborers that they may have to work overtime either at shift work or otherwise.

6. It is the condition of the employment of men working on shift work that they may be put to laboring work at laborers' wages without notice in case of any stoppage of plant.

7. All persons employed by the company are liable to be put on short time, without notice, in case of short work.

8. No man working on shift work may leave his work until relieved by his mate without special permission from his foreman.

9. Every person on being engaged as a workman may become a member of and subscribe to the Works' Sick Club and the subscription shall be deducted from his wages, by the cashier, weekly.

10. It is a condition of employment of young persons under the company, that they shall have passed the sixth standard in a day or night school, and that they shall have attained the age of 14 years.

11. It is a condition of employment that all lads under 17 attend evening school (at the firm's expense when specified conditions are complied with).

12. It is a condition of employment that 1d. per week be contributed by every man and boy to the recreation fund.

13. It is a condition of employment that every person shall before being engaged satisfy the medical examiner appointed by the firm in the matter of health and fitness for the work he or she will have to do.

RULES OF THE WORKS.

1. Non-arrival at starting time means exclusion till after the next meal time.

2. Non-employes are not allowed to take meals into the works; they must transfer them to employes at the time office.

3. No person, except a shiftman or one specially allowed by manager or foreman, is allowed on the works during meal times, and anyone having meals on the works must not wander about. Admission during meal times commences 15 minutes before starting.

4. No person is allowed at any time in any department in which he or she does not work, except by permission of manager or foreman.

5. No person must cease work before the bell rings (except when working short time), and anyone returning late from meals will come under Rule 1.

6. No person must use a hoist or work machinery without special permission from manager or foreman.

7. Empty soap boxes must not be used for any purpose other than packing soap which is going to the ware-

house or customer. Strong painted boxes and buckets are provided for all other purposes.

8. If pilfering is suspected, the firm hold themselves at liberty to search anyone.

9. Smoking and spitting are not allowed anywhere in the works. (Shiftmen are, however, allowed to smoke in their department during fixed meal hours.)

10. Entrance to and departure from the works must be made at the time office only. (But departure at breakfast and dinner time can be made at the glycerine gate.)

11. Soap is provided for washing hands and can be had from the engineers' stores by an order. No other soap is allowed to be used.

Turpentine Derivatives.

BY DR. L. REUTER.

Referring to the interesting paper on "Pine Products," written by Mr. Th. W. Pritchard for the Scientific American Supplement, I would like to say that there are several important products made in Germany from American spirits of turpentine which are not as yet manufactured in the United States; these products are terpin hydrate and terpineol.

The first named article, the terpin hydrate, has attained such an importance as a valuable remedy, that it has even found a place in the U. S. Pharmacopœia, where its properties are fully described and methods given for the examination of its purity.

Although prepared from turpentine, terpin hydrate is, when chemically pure, an absolutely odorless substance, and crystallizes in beautiful colorless prisms. It is used as expectorant, antiseptic, diuretic and diaphoretic in bronchial affections, whooping cough, throat affections, tuberculosis, and many other diseases, and it is employed so extensively, that about 35,000 pounds of it are imported from Germany, where it is manufactured in chemical factories exclusively from American spirits of turpentine. Being a chemical compound under the regulation of the tariff act of July 24, 1897, it has to pay a duty of 25 per cent. ad valorem on entering this country.

The second turpentine derivative not yet manufactured here is terpineol or synthetical lilac; it is an oily liquid and possesses a very agreeable odor, which is almost identical with that of lilac flowers; it is used as a base for quite a number of perfume compositions, and a solution of it in alcohol mixed with some heliotropine, etc., is considered to be one of the best lotions which we have for scalp and face.

About 45,000 pounds of terpineol are annually imported from Germany; like terpin hydrate it pays a duty of 25 per cent. ad valorem.

Before entering into the details of the manufacture of these two articles I wish to state that the proper locality where the same could be cheapest and best manufactured, is the southern part of this country, especially the pine regions, where spirits of turpentine is made on a large scale, either from turpentine or by distillation of pine wood. In these districts the manufacture of the above-mentioned and of other even more important turpentive derivatives, like synthetical eucalyptol, synthetical borneol, the latter being manufactured to a very great extent at Leipsic for consumption in the Far East, synthetical camphor, etc., should be developed, and it would be an easy task to supply the world from here with articles of as good a quality and as cheaply or cheaper than German factories.

American manufacturers would have a further advantage in so far as they could use certain discolored grades of turpentine or grades obtained from pine wood by destructive distillation and containing traces of creosote, etc. That such cheaper grades can be used for manufacturing purposes, that the yields and the quality of the final products are identical with those made from the purest spirits, I can confirm from my long, practical experience in that special line of manufacturing.

Two methods are used in these days for the manufacture of terpin hydrate—the first of which consists in exposing to the air in flat dishes a mixture of spirits of turpentine, nitric acid, and alcohol, separating the crystals which are formed after some time and purifying the same by recrystallization. This method can be used profitably, especially in such countries where the price of alcohol for industrial purposes amounts to less than one-tenth of that to be paid in this country.

I used this method successfully for a number of years and while experimenting with the mother liquors, left after the separation of the terpin hydrate crystals, I made a very interesting discovery, which will, if technically developed, open new and important opportunities for the development of industry and commerce in the South.

While experimenting, as stated, with the mother liquors of the terpin hydrate manufacture for the purpose of finding a better outlet for that by-product than that for which it has been used, namely, for varnishes, etc., I discovered that it contained up to 5 per cent. and sometimes even as much as 9 per cent. of eucalyptol, which is the most valuable constituent of the oil of certain eucalyptus species, especially of *Eucalyptus globulus*, Labillardiere, the Australian blue-gum tree. Thanks to the indefatigable labors of Hon. Abbot Kinney, Hon. Elwood Cooper, Mr. A. Campbell-Johnston and others, that tree is now extensively cultivated in Southern California. Many tons of eucalyptus oil are

consumed in this country, 90 per cent. of which is imported from Australia by way of England; and also very large quantities of eucalyptol, extracted by special methods from eucalyptus oil in German chemical factories, are imported in the United States, paying a duty of 25 per cent. ad valorem, $1.00 to $1.20 being realized per pound for that quality which answers the requirements of the U. S. Pharmacopœia.

As the eucalyptol which I obtained as by-product in the mnaufacture of terpin hydrate is chemically and physiologically identical with the natural eucalyptol, it is only a question of time when it will ultimately be made from spirits of turpentine exclusively, and as any cheaper grade of spirits can be used for making eucalyptol, the most favorable locality for its manufacture will naturally be the pine districts of the South.

When the process of making eucalyptol from turpentine will be fully developed in this country, it will become necessary to protect that new industry by a prohibitive duty of at least 50 cents for each pound of eucalyptol and also 50 cents for each pound of eucalyptus oil "containing 20 per cent. and more eucalyptol. It would not do to impose only a duty on eucalyptol, as it is very probable that if only the duty on that article is raised, it will be invoiced and imported as oil of eucalyptus. While a duty of 50 cents on each pounds of eucalyptus oil containing 20 per cent. or more or eucalyptol would protect the manufacture of synthetical eucalyptol, the duty on ordinary eucalyptus oil, which contains principally phellandrene and only a very small quantity of eucalyptol, could remain as fixed by paragraph 3 of the tariff act of July 24, 1897, namely 25 per cent. ad valorem. Of course, it is to be expected then that the Treasury Department will have all the imported eucalyptus oil examined chemically as to the percentage of eucalyptol it contains.

And now a few words in regard to the manufacture of synthetical camphor from spirits of turpentine. In the Scientific American of Nov. 21, 1903, an interesting paper was published concerning the manufacture of this article at Post Chester; unfortunately the manufacture has recently been abandoned, probably because of the great expense of materials. The proper locality to manufacture this article would have been the South, for the following reasons: The two principal raw materials entering in the manufacture of synthetical camphor are spirits of turpentine and oxalic acid; in regard to the first item, the spirits, I have to say, the cheaper grades of that article, viz., such as are obtained in the destructive distillation of pine wood and containing traces of creosote, will do for making camphor and such grades could have been purchased in the South for less than half the price which had to be paid for the pure market article. Also expenses for shipping of raw materials, for barrels, etc., would have been reduced to a minimum, if that industry had been started in the turpentine districts. As a matter of fact, every young industry needs conscientious and conservative development, and the nearer the factory is located to the source of the raw materials the more independent will it become and the more profitable will it prove to be in the end.

The second raw material for the making of camphor is oxalic acid. Though some of that article is manufactured in this country, there is still a considerable quantity imported. In 1903, 5,363,646 pounds, valued at $257,289, were imported. Oxalic acid is on the free list of the tariff of 1897 and that is the reason why its manufacture has not been developed. If the fact is considered, that the principal raw material for making oxalic acid is sawdust, which goes to waste or is obtainable nowhere cheaper than in the lumber districts of this country, it is evident that oxalic acid can be made here as cheap or cheaper than anywhere else.

In my opinion both industries, the manufacture of oxalic acid and of synthetical camphor, should be taken up jointly in the South by one and the same company. Oxalic acid at manufacturing cost price would naturally be a good deal cheaper than the article purchased from other manufacturers or from importers, and, at the same time, all oxalic mother-liquors could more easily and more cheapely be re-converted into oxalic acid.

But why not go a step further? Why not protect such important industries by prohibitive duties, especially if such industries can stand exclusively on domestic raw materials? If on crude camphor, which enters duty free, a duty of 50 cents per pound is imposed (imports, 1902, 1,831,058 pounds, $576,405; 1903, 2,508,420 pounds, $764,403); on refined camphor instead of the present duty rate of only 6 cents per pound also a duty of 50 cents per pound and on oxalic acid a duty of 10 cents per pound, there can certainly be no doubt that the above-mentioned industries depending solely on American materials would flourish and become very profitable enterprises. The country at large would learn to become independent from imported crude materials and would stand on its vast resources; and last, but not least, the Southern States would be brought on a better footing with the manufacturing states and on a higher level generally.

Several patents for the manufacture of synthetical camphor from spirits of turpentine have been granted here and in Germany. A number of chemists are actively engaged in the scientific laboratories of large factories in Germany to develop the technical process of making camphor. It is not to be doubted that the syn-

thesis of camphor will be realized in the near future and that some day we shall read in the newspapers that Germany does not need natural camphor from the Far East any longer, that she succeeded in standing on her own resources in regard to camphor as she succeeded so gloriously in making herself independent from natural indigo by carrying out on the grandest scale the manufacture of synthetical indigo from coal tar.

It is to be hoped that when this time arrives the problem of manufacturing synthetical camphor will also have been solved in this country. Likewise, that our far-sighted philanthropists, who so liberally provide enormous sums for medical, electrical, and general engineering sciences, will have recognized the necessity of providing means for original synthetical research-work, a science of greatest practical importance, which thus far has been utterly neglected in this country, and which will prove not only a blessing to organic-synthetic chemistry, but through it, to humanity at large.

Bribery of Employes.

(Continued.)

In the sense of this statute the expression "consideration" includes every consideration in whatever form it may be that can be appraised. The expression "representative" includes all employes or persons acting instead of somebody else, and the expression "principal," an employer. In criminal procedure under this statute the proof shall not be admitted that a present or consideration as mentioned in this paragraph is customary in a trade or occupation.

Another paragraph in this act, which like the above mentioned extracts, has already been accepted by the British Parliamentary committee, states: "The costs of legal prosecution shall be defrayed as in all other indictments for misdemeanor."

The German chambers of commerce also have taken up the matter, and the Bavarian Department of the Interior has received a memorial from one of the largest Bavarian industrial concerns that the department is respectfully petitioned to take steps to extend the statute for the suppression of unfair competition.

This question will undoubtedly receive more attention in Germany, and it will have to be ascertained whether and how far it can go to protect the honest merchant against the dishonest one. The mercantile associations above all should take up this matter.

(Translation from Farber Zeitung.)

BRIBERY OF EMPLOYES BY CONTRACTORS.

(By Adolf Lehne.)

As has been proved by several letters from readers of Farber Zeitung, bribery of employes by contractors, which is being practiced in many ways, has assumed such proportions that the honest business man as well as the honest contractor, who are very much injured thereby have found it necessary to take steps for an immediate and thorough abolition of this cancer in the industrial world. A cloth manufacturer, owning a considerable dyeing establishment, writes, for instance: "You presumably know my foreman, X., in whom I had for many years the utmost confidence, as in general I was quite satisfied with his work. On account of the many duties that rested upon me, I committed to him the complete superintendence of the factory and entirely relied upon his judgment in the selection and purchase of dyestuffs and other materials which he needed. It did attract my attention that for several years he manifested a decided preference to the products of a few firms. The written offers or personal solicitations from other supply houses he declined, as, according to the pretended examination of the dyes, they proved to be of inferior quality. If I did find this remarkable, I nevertheless thought that X. was conscientious, but probably in some cases had declined the examination and introduction of new products for reasons of convenience, as by the use of these the observance of other dye formulas would be necessitated. I had unlimited confidence in my superintendent, who impressed me with his uprightness; I had also shown him my satisfaction last year by increasing his salary considerably. A short time ago I obtained certain proof that X. had deceived me for years in the most shameful manner, in that he allowed himself regularly to be bribed by my principal contractor, *i. e.*, he received a profit on all dyestuffs ordered from the contractor in proportion to the amount of the bill. As I, in greatest agitation, requested him to justify himself, he confessed all, but did not want to acknowledge that his behavior had been improper or liable to penalty; that it was customary everywhere; that the dyestuffs were really of good quality, and that as the money was paid by the contractor and not me, I could not consider myself injured. I, of course, discharged him and severed all connections with the firm in question. What can be done to protect one's self against such infamous practices?"

No legal statute, of course, can guarantee absolute protection against dishonest employes; nevertheless, a more precise statement and improvement of the legal statutes so far existing would, in this country as well as elsewhere, be very beneficial. For the present it is to be recommended that the management and purchase of supplies be not left unreservedly in the hands of an employe. The majority of employes in Germany intrusted with this business are, no doubt, above the suspicion that they take advantage of opportunities for procuring

money for their own benefit in illegitimate ways, but the purchase of raw products in accordance with the best practice in use for a manufactory is of such prime importance that no cautious manager of an establishment will for this reason leave that responsible occupation to anyone else, but rely in this respect on his own judgment or gain the same by experience. On the other hand, too much interference with the dye foreman's duties should be avoided, as it will distract him in his orders and tend to make his position disagreeable. Illegitimate relations between contractors and employes are avoided in many cases where those interested know that the manager of the factory has personal practical knowledge, concerns himself about the purchase and is in the habit of giving unprejudiced consideration to the bids of all the larger contractors. It is an effort well spent if the manager, from time to time, especially in disputable cases, obtains an unbiased opinion from a reliable source regarding the products of the various contractors. Besides this, it is advisable for the manager of a factory, in engaging a foreman who has to do with purchases, to speak to him about the "bribery question" without reserve, and to include a clause in the contract of engagement, after consultation with a lawyer, by which the engaged person, under threat of immediate dismissal or high fine through court proceedings, is forbidden to accept a consideration in any form from supply houses dealing with his firm. If not a personal sense of honor, then the threatened discharge, fear against prosecution by law and loss of good name, will prevent the employe in most cases from listening to the secret or open entieements of contractors. He is less likely to fall into temptation the better he is paid. Some managers are not conscious of the obligation that the very important responsible position of foreman of a dyeing establishment should be paid accordingly!

The Manufacturers' Association in Aachen and Forst, as well as the Industrial Society of Werdau, have tried to guard themselves against bribery of employes, in that supply firms have to declare in writing to abstain from influencing employes in any way. I must confess this remedy does not appear to me to be sufficient; those supply houses who heretofore have been in the habit of using improper and unlawful means in the offer and sale of their goods will not be prevented, even by threatened legal proceedings, to continue in their questionable methods. It is not with them as in the ease of an employe, who puts his position in jeopardy, that they will lose their good name, as nowadays, sad as it is to state, the bribing of employes by many efficient salesmen is not considered as something disreputable, but as a not just agreeable though indispensible obligation of an experienced salesman. If absolutely necessary, a financially strong firm will pay the fine imposed without hesitation—and continue with its practices elsewhere with greater eare.

In other countries also attention has been directed to this danger for some time past, which threatens, through bribery of employes, decent manufacturing having its firm foundation upon the quality of the produets. In England a statute has been prepared which can be traced to the initiative of Supreme Judge Lord Russell, whieh is given below. Also in the United States energetic efforts have been made for some time to suppress the evil. In the State of Rhode Island a law has been proposed, whereas in the State of Massachusetts a law, also embodied in this article, has already been passed by the legislature.

Besides this, it may be here stated that in a very interesting artiele, whieh appeared in the Frankfurt semimonthly magazine Das freie Wort, the bribing of employes was mentioned as being one of the causes for the present industrial retrogression in Germany.

I. England. Bill, entitled: "An aet for the Better Prevention of Bribery." (Remark: The inclusion of the words in parenthesis and quoted, has been proposed in the committee.)

I. 1. "If a representative with unfair intentions accepts or receives a present or consideration for himself or for another person, for the eneouragement of, or as a reward for, the commission or omission of any aet with respeet to the business of his principal, or for the purpose of showing favor or disfavor to a person with respect to the business of his principal;

"Or, if anyone with unfair intentions gives or offers a representative for the encouragement of, or as a reward for, the commission or omission of any aetion with respect to the business of his principal, or for the purpose of showing favor or disfavor to a person in respeet to the business of his principal;

"Or if anyone intentionally delivers to a representative a receipt, bill, or any other writing in which the principal is interested, and which contains a wrong or misleading, or, in any one important point, unsatisfactory statement, which is used, with his knowledge and consent, for the purpose of mis leading the principal;

"So shall this be considered a crime, and in case of conviction before court be punishable with imprisonment with or without hard labor up to two years, or with payment of a fine not to exeeed five hundred pounds, or with the stated imprisonment, and also stated fine, or by summary conviction be subject to imprisonment with or without hard labor not to exceed four months, or with a fine not to exceed fifty pounds, or both these penalties.

2. "In the sense of this statute the expression 'eonsideration' includes every consideration in whatever form

it may be that can be appraised. The expression 'representative' includes all employes or persons acting instead of somebody else; and the expression 'principal,' an employer.

3. "A person in the service of the State is a representative in the sense of this law.

4. "In criminal procedure under this statute the proof shall not be admitted that a present or consideration as mentioned in this paragraph is customary in a trade or occupation.

5. "Where it has been proved that a present or a consideration of the kind mentioned in this paragraph has been accepted, given or offered without the consent of the principal, then for the purpose of this law, the burden of proof shall rest with the defendant that the present or consideration has not been accepted, given or offered with dishonest intentions.

II. 1. "The prosecution in an action contrary to this statute shall in England not take place without the consent of the attorney general or solicitor general, and in Ireland not without the consent of the attorney general or solicitor general for Ireland.

2. "The costs of a legal prosecution in connection with this statute shall be defrayed as in cases of action for misdemeanor.

III. "This statute shall apply to Scotland with the following alterations:

1. "Paragraph 2 shall not extend to Scotland.

2. "In Scotland all punishable offences against this statute shall by summary proceedings be prosecuted before the sheriff according to the statute appertaining to summary procedure (in Scotland).

IV. 1. "This statute shall be entitled: "The Prevention of Corruption Act, 1903."

2. "This statute shall become valid on January 1, 1904."

II. "State of Massachusetts. In the year 1904. An Act for the Prevention of Improper Persuasion of Agents, Officers, or Employes:

1. "If a person should give, offer, or promise a present to an agent, officer or employe, for the dishonest purpose of influencing his action with regard to the business of his principal or employer.

"Or an agent, officer or employe, who, with a dishonest purpose, demands or accepts a present or consideration, or promises to give a present or perform an action profitable to him, in accordance with an understanding or with the consent that he should act in a certain way with regard to the business of his principal or employer.

"Or an agent, officer, or employe, who is authorized to purchase raw material, products or other articles for his principal or employer, or respectively to conclude contracts of delivery, or to engage help or workmen, and accepts, directly or indirectly, for himself or another person, a consideration, percentage or bonus from the person concluding such a purchase or contract, or delivers such raw materials, products, or other articles, or furnishes such services or work.

"And every person who gives or offes to such an agent, officer or employe such a consideration, percentage or bonus, shall be punished with a fine of $10 to $500 alone, or with imprisonment up to one year.

2. "No one shall have the right to refuse appearance, giving of testimony, or the production of books, papers, contracts, agreements and documents, before any court, or in consequence of a summons of our court competent to try offienses, for the reason that the testimony demanded of him, or documentary or other evidence might lead to a charge against him, or subject him to imprisonment or fine. No one, however, shall be subject to a lawsuit or prosecution, either civil or criminal, on account of an action, a case or an affair, with respect to which before the court in question, or in consequence of his summons or in any such legal action or suit, he gave testimony or documentary or other evidence."

(To be continued)

Protection Against Fire.

BY ONE WHO INSURES.

For many years a hotel had occupied a corner in a large country town, and in the hotel was a little drug store. The store had been there a long time, too—perhaps as long as the hotel itself. There came a day when the ownership of the drug store passed into the hands of two young men, and thereabout a new manager acquired control of the hotel business.

Things were going on "swimmingly" in both sections of the establishment when suddenly there was a change. Late one night the hotel caught fire—exactly how was, I think, never found out—and when the young druggists got to the scene they found that kind neighbors had carried what they could of the store contents to the sidewalks and the flames were then spreading throughout the building.

This violent turn of events was, of course, a serious one to the druggists. But they had taken what precaution they could to neutralize the disaster if it should come; and it was an immense satisfaction to them to reflect while the fire was burning that they had insurance enough to replace the stock and fixtures that were going up in smoke. There was trouble and loss of business which could not be insured against—even nowadays, when one can protect himself from damage by various kinds of agents other than fire, there seems to be no way to provide for that kind of loss. But they were able to commence again somewhere near where they were obliged to leave off.

With the hotel man the conditions were far different. He, too, had recognized the importance of insurance, but, having much to do in preparation for his new venture and but limited means with which to do it, he had put off taking out a policy until he could easier spare the money. That time had not arrived when the fire occurred, and he was obliged to begin over again, years back, so to speak, of where he was when his property was destroyed.

This little story ought to be an effective argument as to the importance of the promptest kind of action in insuring any property which one may come into possession of. One may arrange for prospective insurance; the retrospective kind has not yet been invented. Beginners in business may not always fully realize that risk begins with taking possession of inflammable things; that a store is just as likely—perhaps more likely—to be damaged or destroyed by fire while in process of being fitted up and stocked as when it is in full operation. Buyers of an established business which is already insured may overlook the fact that from the moment one takes over the property, such insurance becomes valueless unless it is legally transferred to him. The formal taking possession of the property and the assignment of the policy should occur at exactly the same time, it being remembered that the consent of the insurance company, in writing, is necessary to make the assignment effective.

It seems scarcely necessary to argue further the importance of taking advantage of the modern method of "distributing the loss" in case of fire. Most men of necessity have all their capital invested in one place; fire there may cause financial ruin, and one must be indifferent, indeed, to take any chance of that which he may be able to avoid. People nowadays generally insure.

But there is insurance and insurance, and a careful study of what those taking it should and should not do is probably largely neglected. Such study may save trouble and money if the time should happen to come for settling a loss.

To begin with, one should look into the resources of any company in which he thinks of insuring, find out the extent of territory over which its risks are distributed and what its reputation is for fair dealing. A strong company might fail if its risks were in a single city and an extensive fire should occur there. The company may be sound, but have a reputation for quibbling over its losses; such a company is, of course, a good one to avoid.

Insurance, like other things, is apt to be of a value proportioned to its cost. A mutual company may accept smaller premiums than a stock concern, but such a company is apt to operate in a limited territory, and, as noted above, where this is so, an element of uncertainty is added to its promise to pay. The matter of assessments or the possibility of them must also be considered when dealing with a mutual company.

It is well to consider the question of dividing insurance between two or more companies as an extra precaution, especially if the amount of property is large; but permission must be obtained by endorsement on each policy to effect other insurance. When this method is followed, the policies must be concurrent in their terms, the reason for which will be shown in a subsequent paragraph.

It is important that the policy should be made to accurately describe the things on which insurance is desired. When on a stock of goods, the main items should be specified, and with these should be included "all other merchandise usually kept in such a stock." As counters, shelving, shelf bottles and implements with which the work of a drug store are carried on are evidently not kept for sale in the ordinary course of business, they are not a part of the stock and should be specially mentioned. The amount of insurance effected may, of course, be made by the terms of the policy to apply to stock and fixtures collectively, but it may be better to follow what is probably the usual custom, of placing a certain amount on each. As the soda fountain, while common enough in drug stores, is not always a part of the fixtures, it seems best to place a specific sum on it and its belongings.

As it may sometimes happed that a soda fountain has not been absolutely bought outright, but is "leased" from the manufacturer, it is important to note here that according to the terms of the standard policy, the entire policy is rendered void "if the interest of the insured in the property be not truly stated" therein or if personal property be or become encumbered by a chattel mortgage. In a case recently decided in the Supreme Court of Rhode Island, this provision was upheld. Furniture had been insured a part of which was held on the "intallment plan;" fire occurred, and the court held that under the terms of the contract the entire property was void, and the holder could not recover for what had actually been owned. The law of course would apply if goods were held "on commission." It would apparently be best to insure in a separate policy, any interest one might have in a leased fountain or other property not owned outright. The contract with the lessor would determine the form it should take.

The care given to specifying the things to be insured should naturally be extended to describing the premises in which they are kept, this specification extending even to parts of the building, as the room on the street floor, the cellar, etc.

My attention has recently been called to a specification in which the localities of the collective description are conjoined by both "and" and "or." For instance,

if the property were in the store room and cellar, the phrase would be "in the store room and, or the cellar." The object of this is more especially shown in the following clause of the agreement:

"It is understood and agreed that where the word 'and' appears and also where the word 'or' appears in this form, that it is the intent to and this policy does cover, under either one or both of the alternatives and-or as the case may be; and furthermore, this policy covers the property insured in whole or in part, collectively or separately, and where the property is designated in the plural number, it is also insured under the singular number and vice versa, but this clause should not be held to exclude any property insured under this policy."

If more than one policy be taken, all should be exactly alike in their terms. If one, for instance, should be for a single amount on stock and fixtures and another for separate amounts on each, there would be serious trouble in adjusting a loss; and the same condition would occur where the location of the stock was given in one as the storeroom and in the other as the storeroom and cellar.

The written portion of the policy having been determined on, one should examine its printed conditions. These are so numerous that to do this properly requires some time and close attention. But it is certainly important to find out exactly what these conditions are, as for want of that knowledge one may do something which will render his policy of no effect. Householders no doubt often violate at least one of the customary conditions—that prohibiting the keeping of benzin on the premises. They accept the policy without finding out that this is one of the things they must not do.

It may be here noted that in the policy made "standard" in this and other States by law, benzol, ether and phosphorus, as well as benzin, are prohibited articles, "any custom of the trade to the contrary." While these are a proper part of any druggist's stock, there is a question whether the absence of express permission in writing on the policy to keep them, does not leave room for a lawsuit in case of loss. The person insuring a drug stock should ask for this permission. A company intending to be perfectly fair can raise no objection to either doing this or distinctly stating that it prohibits these or like articles even in a drug stock.

It is a regretable fact that insurance companies do not always show themselves anxious to have their contracts absolutely clear. For instance, the standard policy of which mention was made above, has with probably some variations been in existence many years. In it the building in which the insured personal property is kept is described as a whole, and the prohibition of the inflammable articles already named forbids their being "kept, used or allowed on the above described premises."

This phrase was formulated before flat houses were invented, or at least when they were scarcely known. It will be noticed that this policy forbids the doing of things on the *premises;* that is, if we are to take language at its accepted meaning, in the house. Where two or more persons occupy different apartments in the same flat, each is of course entirely independent of the other, so far as ordinary actions go. One has no certain means of knowing whether his neighbor does things forbidden by the insurance companies, and if he did know that that was the case, he could not compel the neighbor to do differently. Yet policies are issued to tenants of flat houses in exactly the same form as to sole tenants of houses which are not flats. These policies tell the tenants of flat houses that their insurance will be void if certain things are done, the doing of which they could not possibly be required to undertake to prevent. It seems safe to call such a policy an ambiguous contract, yet the companies fail to so define the word "premises" as to make it distinctly apply to that part only which is occupied by, and consequently under the control of, the insured.

Another instance of this ambiguity is shown in the clause usually stamped on policies insuring tenants in apartments above stores, namely, "warranted by the assured that the within described building is occupied exclusively for dwellings above the first or grade floor." How can the assured be expected to know with certainty what his neighbors are doing? They might often be using their apartments as work-shops without his knowledge.

Whether a dishonest company has ever escaped payment to a loser by reason of such ambiguities in the contract I do not know; probably the question is still an open one. But the best time to settle doubtful questions is before accepting a contract, and if insurers generally would insist that their contracts should be made in every way straightforward, there is not much doubt that they would have their way. Any lack of that quality may enable insurers who are so minded to "squeeze" the insured when it comes to paying for a loss.

In olden times one could insure his property for any part of its value and would receive payment for all damage that ensued up to that sum. Now the insurance companies, in some localities at least, insist on a quite different arrangement regarding merchandise and some other classes of property. It is embodied in a "co-insurance" clause which prevents the insured from receiving full payment for his loss, unless the property has been insured to its full value or to such lower sum as may be named—usually eighty per cent. If one should have a stock of $10,000, for instance, and insure it under the 100 per cent. clause for only $5,000, he would in case half of it were lost get only half of the loss, namely, $2,500. The insured under the 80 per cent. clause, the stock and insurance remaining at the same

figures, for a $5,000 loss the company would pay only five-eights of $5,000; that is $3,125. Whether the loss be partial or total the result is the same, which statement is here made especially to correct an error on the subject which has "crept into print" in a previous issue of this journal. This arrangement renders it necessary to not only ascertain the value of the property at the time of insurance, but to note any increase that may occur, as a comparatively small addition will materially alter the relation between value and insurance.

Many druggists as well as other merchants do business on a guessing system. They keep no books which will even approximately show the value of their property. This kind of knowledge, always desirable, is especially so when it comes to settling a loss with an insurance company. Every merchant should know what he starts out with, and be in a position to learn from time to time whether he has added to or diminished his stock. This can be fairly done by simple bookkeeping—account of purchases, account of sales and account of profits, the latter ascertained by keeping complete memoranda of everything sold during certain periods, with cost and selling price. An occasional inventory is of course a very desirable addition to the books.

While insurance is a measure of protection which every man is bound to apply to property which he cannot afford to lose, it cannot, as we know, be applied to lost opportunity. Constant vigilance is an understood part of an insurance contract, an important means of self protection and a duty to neighbors which cannot be avoided. The owner of a store should see to it that no negligence on his part shall endanger his premises. Care with matches, care with waste, and care with specially inflammable merchandise will go far toward the prevention of that for which insurance is but a partial cure.—Druggists' Circular.

Adulterants of Essential Oils.

BY L. H. TURNER, BROOKLYN, N. Y.

There is hardly any other group of products that is subject to so much adulteration as the essential oils. The high price of most aromatic substances and the difficulty of recognizing their adulterants furnish an inviting field to the unscrupulous manufacturer. Some expensive oils are mixed with cheaper ones having a similar odor—for instance, oil of rose with oil of geranium, or oil of geranium grass; oil of orange flowers with the oil from Philadelphus coronarius; oil of verbena with oil of lemon grass; oils of caraway, anise and fennel with oil of turpentine; oil of cinnamon with oil of cassia. Besides these, other deceptions are practiced—for instance, oil of anise is mixed with oil of turpentine, and in order to make the mixture congeal readily, which is characteristic of true oil of anise, paraffin or spermaceti is added. A similar practice prevails with adulterated oil of rose and other viscid oils. Oil of bitter almond is often adulterated with, or entirely replaced by nitrobenzol.

The demonstration of the adulteration of an essential oil by chemical means offers many difficulties. The physical properties usually furnish the means of recognizing the purity of an oil, and these give more reliable results to the practical perfumer than the chemical tests. The most valuable evidence is the information furnished by the boiling point, the congealing point, and the density of the oil.

In buying essential oils, except it be from a house whose reputation is such as will guarantee the genuineness of the goods they sell, it is to the interest of the perfumer to make tests. He must look for certain substances which are generally used for the sophistication of essential oils. These are, first, other essential oils; second, fixed oils; third, alcohol; fourth, parafin, spermaceti, wax.

ADULTERATION WITH OTHER OILS.

This method of adulteration, which is frequent, is naturally the one most difficult to demonstrate. In the case of cheap oils, such as those of caraway, lemon, or orange peel, rectified oil of turpentine is almost without exception the adulterant. The test usually recommended, that of attempting to dissolve out by strong alcohol the oil of turpentine, and thus separate it from the essential oil, is without practical value. The adulteration, can, however, often be demonstrated by rubbing a drop of the suspected oil on a glass plate and testing the odor, provided the olfactory organ is trained.

The demonstration of an adulteration with an essentian oil is most certain by so-called fractional distillation. Some of the oil to be examined, about four to six fluid drams, is placed in a small retort with condenser and heated to a temperature a few degrees below the boiling-point of the oil. For instance, if oil of bergamot, supposed to be adulterated with oil of turpentine, is to be tested, the sample is heated carefully to nearly 188° C. (370° F.), the boiling point of the oil of bergamot; oil of turpentine which boils at 160° C. (320° F.), will pass over completely, while the oil of bergamot will remain in the retort.

Fractional distillation is also the most reliable way of demonstrating an adulteration with a fixed oil or with paraffin wax or spermaceti. An adulteration of oil of lavender with oil of spike lavender which is otherwise barely recognizable, is positively shown by this method; even oil of geranium in oil of rose, and oil of cassia in oil of cinnamon may be thus recognized.

ADULTERATION WITH FIXED OILS.

The presence of a fixed oil is demonstrated either by fractional distillation, when the alcohol passed over first

between 70° and 80° C, or by the use of a graduated cylinder which is divided into one hundred equal parts. If by the latter method the vessel is filled to the tenth division with the oil to be tested, and water is added to bring the volume to the fifty mark. If alcohol is present, it is taken up by the water, so that the volume of oil appears to diminish. If the oil reaches to the mark 7, it contains three volumes of alcohol, or in other words, it is mixed with thirty per cent. of alcohol. It is true that essential oils likewise dissolve somewhat in water, but in such minute quantities that the success of the test is not affected.

ADULTERATION WITH PARAFFIN, SPERMACETI OR WAX.

This mode of adulteration is practiced mainly with viscid oils which congeal at rather high temperatures, such as oil of anise, rose etc., the essential oils usually being mixed at the same time with oil of turpentine or paraffin. The fraud is easily detected by fractional distillation. Oil of bitter almonds is often adulterated with oil of mirbane; this can be detected by shaking one volume of the suspected oil with seventeen volumes of forty-five per cent. alcohol, and setting the mixture aside to settle. If nitrobenzol (oil of mirbane) is present, it will collect at the bottom of the container. Oil of rose may be tested as follows: Mix a sample of the oil with an equal quantity of concentrated sulphuric acid. Neither the color nor odor of the oil should be changed, but if oil of geranium is present, the mixture will become much darker and evolve a disagreeable odor. Heating essential oils with iodine or nitric acid to determine their purity gives similar results with so many different oils that the test is almost worthless.

Oil Aniseed:—Heavily adulterated with petroleum, fennel oil or its stearoptene, and the waste liquid portion of the oil obtained in the manufacture of anethol. The pure oil should be soluble in three volumes of ninety per cent. alcohol. An oil adulterated with five per cent. of petroleum will not dissolve in ten volumes of alcohol.

Oil of Bay:—Sometimes heavily adulterated with oil of cloves and pimento, both of which cause an increase in the specific gravity. Oil of turpentine, added at times, alters the optical rotation and specific gravity; if oils so adulterated be distilled in a small fractionating flask, the bulk of the turpentine is obtained in the early fractions.

Oil of Cassia:—Often adulterated with colophony, petroleum, resin, and castor oil.

Oil of Rosemary:—The usual adulterants are oil of turpentine, petroleum oil and spike oil.

Oil of Bitter Almond:—Often adulterated with artificial benzaldehyde, which may be detected in the following manner: A piece of filter paper is saturated with the suspected oil and placed on a small porcelain dish standing in a large one. A large beaker whose inner surface is moistened with distilled water is placed over the smaller dish, the paper having first been ignited. The gases generated by the combustion are, to a certain extent, absorbed by the water on the inner surface of the beaker, which is then rinsed out with a little more distilled water. The liquid is filtered and one drop of nitric acid and a few drops of solution of silver nitrate are added to the filtrate; the formation of insoluble silver chloride is strong evidence that artificial benzaldehyde is present. Another adulterant of a much grosser character is oil of mirbane. This is the cheap almond oil substitute, so largely used for perfuming cheap toilet soaps.

Oil of Turpentine:—Sometimes adulterated with petroleum and resin spirit, or the volatile portion of the distillates of shale and coal tar. Oil of turpentine is used very largely to adulterate other essential oils, both on account of its low price and its close resemblance to many other oils in chemical constitution.

Oil of Rose:—Adulteration is almost universal. The sense of smell is one of the most useful means of judging of the purity of this oil. On account of the high price and wholesale adulteration of the oil, it is imperative that it should be purchased through a reliable source.

Soap Grows in the Fields.

"The return to nature," of which much is said these latter days, may make one independent of many things, though needful, even of man-made soap; for it is a fact that a provident nature has established an admirable substitute for a soap factory in many a wilding plant. Indeed, one might travel afoot across the continent and each day start fresh and clean from ablutions in water made soapy by the pluckings of the wayside, *says the Philadelphia Record.*

At the outset of the trip would appear that familiar weed Bouncing Bet, present by almost every roadside from Pennsylvania to Kansas. Its leaves rubbed up in water produce a lather which has earned for the herb in England, where people long ago guessed its secret, the common name of soap-wort. Its cleansing properties were known to the monks of the Middle Ages, and it is said to have been used by them for the removal of stains from cloth. For my part, I have not found it very attractive, as the same rubbing that produces the suds releases the green coloring matter of the leaves and gives the water a somewhat dirty look, which is not pleasant.

It is, however, west of the center of the continent that our traveler would find the best soap weeds. There he would be in the country of the yuccas, of Spanish bayonets—some species of which are favorite soap yielders to classes of our population not usually credited with

much interest in cleanliness—to-wit, the Mexicans and Indians. The yuccas everywhere dot the plains of the southwest, their stilletto-like leaves clustered at the surface of the ground being almost as formidable as bunched bayonets. The saponaceous substance employed resides principally in the foot, which is an inch or two thick, is enveloped in a heavy bark, and is buried to a depth of eight or ten feet, or even more, underground. A pick is usually used to unearth it, when it comes up like a big, reluctant brown snake. Crushed as it is with dirt, it is the last thing in the world one would suspect of possessing cleansing properties; but on paring off the outer coat there comes to light a white, fibrous, sappy mass, juicy with nature's soft soap. When this root is pounded to loosen the fibres and then rubbed in water, a delightful velvetry lather is formed. The fibrous body of the root makes a good substitute for a scrubbing brush—a mop ready soaped by nature and only waiting water and a willing hand to begin a crusade against dirt. It is from the yucca that the amole soap of the shops is manufactured.

In southern California there are various soap plants, notably several sorts of the misealled wild lilac, known to botanists as Ceanothus, a genius to which the familiar New Jersey tea of eastern woods belongs. In some species the berry-like fruit, gathered and crushed in water, makes the lather, but in my own experiments I have found that a yellowish stain, due to some resinous matter in the fruit, follows such a washing. In other species the flowers may be used. These blossoms, individually tiny, are borne in compact clusters, usually snowy white, but sometimes blue, and in the flowering season they completely cover the bushes with a misty ethereal veil of tender color. A double handful of such bloom rubbed in water produces not only a plentiful lather, but also exhales a delicious, almond-like perfume, that lingers upon the skin for some time afterward. Certainly the most poetic of all earthly soaps is that, meet for ablutions of Lucullus after suppers of nightingales' tongues, washed down with Falernian.

Improvements in Purifying Oils.

In purifying fatty oils and fats for edible purposes the chief aim is to remove the free fatty acids, which is done by the aid of solutions of alkalis and alkaline earths. The subsequent precipitation of the resulting soapy emulsions, especially when lime is used, entails prolonged heating to temperatures sometimes as high as the boiling point of water. Furthermore, the amount of alkalis taken is always greater than is chemically necessary, the consequence being that some of the organic substances present are attacked, and malodorous products are formed, a condition necessitating the employment of animal charcoal, etc., as a deodorizer.

To prevent the formation of these untoward products, which must injuriously affect the quality of edible oils, C. Fresenius proposes to accelerate the dispersion of the said emulsions by subjecting the mixture to an excess pressure of 1 to 1½ atmospheres and a corresponding temperature of about 105° C. for a short time, the formation of decomposition products and any injurious influence on the taste and smell of the substance being prevented by an addition of fresh charcoal, etc., beforehand. Charcoal may, and must in certain cases, be replaced for this purpose by infusorial earth or Fuller's earth.

When this process is applied to cocoanut oil, 100 parts of the oil are mixed with 1-10 part of fresh, pure charcoal, or half part of pure Fuller's earth or infusorial earth. The mixture is next neutralized with lime water, and placed in an autoclave, where it is kept for an hour under pressure and at a temperature of 105° C. Under these conditions the emulsion soon separates, and the whole is left to cool down in the closed vessel.

Farewell to the Washlady.

The washlady has long held a supposedly secure position as one of the indispensable institutions of civilization, second only in importance to the soapmaker. She has shown some consciousness of her importance at times, too, if all the remarks of housewives left in the lurch by tardy washladies be true—and presumably they are true. Now, however, the washlady will do well to become meek and lowly in spirit and to rap at the kitchen door promptly on time, for her doom is sounding like the roar of hounds in full yawp after a cat. A man in London has invented, and another man in New York has imported, paper underwear and hosiery, light, warm and almost as cheap as Sunday school tracts. Wear 'em until they're soiled and burn 'em. No washlady is needed. Soap and water can be dispensed with. Guaranteed to wear one week. When these come into general use, farewell to the washlady—and laundry bills. —Detroit News.

Impure Peanut Oil.

The protest against the collector's action in assessing duty on an importation, invoiced as peanut oil, at 25 per cent. ad valorem as expressed oil, was overruled by the Board of General Appraisers. The protestants made claim for a free entry of the importation under the provisions of paragraph 626, on the ground that the merchandise was a pure peanut oil. A sample was submitted to the official chemist for analysis, and he reported that the merchandise in question consisted of 75 per cent. peanut oil and 25 per cent. of cottonseed and other oils. To offset this, the protestants submitted

for evidence the result of an analysis of the merchandise by Stillwell & Gladding, analytical chemists, who found that there was a very small amount of cottonseed oil in the sample, not more than 5 per cent., and that so small an amount was probably an accidental contamination and not an adulteration. It was stated, however, that this analysis was made with a view of determining whether the sample was pure peanut oil, and not to ascertain the relative proportion of peanut oil and other oils, while that of the official chemist was made for the purpose of determining the percentage of peanut oil contained in the sample. The board held, therefore, that the oil in question was not only not a pure peanut oil, but that the impurity was not a natural impurity or accidental contamination, but a mixture of peanut, cottonseed, and other oils and was properly assessed as a mixture or combination of expressed oils at 25 per cent. ad valorem under paragraph 3, act of 1897.

What The Editor Wrote (and Thought).

John Jones, of Oakum, died (and went to—some other place) November 20th, aged fifty years (most of which was spent in "doing" everybody he could). He was born at Jimtown, leaving there at the age of seventeen (much to the relief of his neighbors) to take a position at Oakum, where by his strict attention to business (and no attention at all to the principles of justice and equity) he succeeded in building up a fortune. In the public life of his adopted city he was a conspicuous figure (his every public act being for private gain). He loved his fellow man (when it paid to do so), and was honored by his employees (who knew enough to try to keep on his right side). He was a member of several secret orders (and "worked" the brethren in each one for all he could get out of them). In his home life he was kind and indulgent (while folks were looking, but raised sand every time he got a bill for his wife's clothes or his children's schooling). Truly his place will be hard to fill (and that's no lie). —Druggists' Circular.

PATENTS AND TRADE-MARKS.

The following list of recent Patents and Trade-Marks is reported by W. G. HENDERSON, Solicitor of American and Foreign Patents and Trade-Marks, Norris Bldg,, Washington, D. C. A copy of any of the following will be furnished by him for 15 cents.

TRADE-MARKS.

43,766. Toilet Soap. Frank Gains Burke, New York, N. Y. The representation of a draped female figure appearing in an ornamental portal and in strong contrast to the background.

43,806. Laundry Soap. The N. K. Fairbanks Company, Chicago, Ill. The word-symbol "La Batea."

43,821. Laundry Starch. Reckitt & Sons, Ld., Hull, England. The representation of an outer background made up of a series of parallel bars or stripes superimposed on which are triangular panels; an inner background consisting of two series of sun-like rays, in the center of one of which series of rays is a disk bearing a robin upon a branch and crossed by a diagonal panel and below said disk two small curved and one straight panel, a panel being arranged above the disk and bearing the word "Robin," the other series of sun-like rays having a central disk bearing a robin upon a branch and beneath the disk two panels, on one of which is arranged the word "Robin," and to the left of each series of sun-like rays is a rectangular panel.

43,822. Laundry Starch. Reckitt & Sons, Ld., Hull, England. The representation of a rectangular panel with a background of radiating lines upon which appears a disk bearing a robin perched upon a branch, below said disk two horizontal panels, the upper one bearing the word "Robin."

LABELS.

11,614. Title: "Merry War." (For Soap.) The Cape City Soap Works, Cape Girardeau, Mo.

11,615. Title: "Ben Hur." (For Soap.) The Cape City Soap Works, Cape Girardeau, Mo.

11,616. Title: Big Cape." (For Soap.) The Cape City Soap Works, Cape Girardeau, Mo.

11,677. Title: "Naptha." (For Soap.) Lautz Bros. & Co., Buffalo, N. Y.

AROUND THE SOAP FACTORIES.

News-items sent us by our readers will find prompt attention in this column

The factory formerly used by the Upson Soap Co. of Parkersburg, W. V., has been leased to a new company which has been organized for the purpose of soap making.

The efforts of William and Mary Marx., heirs of the late Frederick Marx, to have the affairs of the firm of Marx & Rawolle, manufacturers of glycerine and shellac, terminated upon the opening of the New Year, have been unavailing. The petition of the heirs was based upon an interpretation of the will of Frederiek Marx, who died on November 24, 1901, that the business was to be liquidated on January 1, 1905, but the Surrogate ruled that the terms of the wills of both Frederick Marx and Frederiek Rawolle and an agreement entered into by Margaretta Marx, executrix of the will of Frederiek

Marx, and the executors of the will of Frederick Rawolle, who died on May 18, 1903, provided for the continuation of the business until January 1, 1906.

Cape Girardeau, Mo., Nov. 21.—C. J. Gratiot, who has been in charge of the factory of the Cape City Soap Works at this place ever since its organization last year, left this morning for St. Louis, to take charge of the company's branch office at that city. C. G. Juden, of this city, will look after the plant here.

The Lawrence Meat Co., of Augusta, Ga., has been incorporated, for the purpose of making, buying, selling, and dealing in meat, soap, and fertilizers. Capital stock $5,000.

The Myron E. Meyer Soap Mfg. Co., of this city, recently incorporated, will pay its chief attention to liquid and soft soaps for hospital use.

We are in receipt of the new catalogue of the Jeffrey Manufacturing Co., of Columbus, Ohio, whose pulverizing machinery for all kinds of materials is so diversified that we cannot well review the contents of the catalogue. Send for a copy, if interested.

Fire, last week, wrecked the plant of the Joliet (Ill.) Soap Mfg. Co., located just outside of Joliet. The loss is estimated at $8,000, only half of which was covered by insurance. The factory will probably be rebuilt.

The Carpo Soap Co. has been incorporated, to make soap in Decatur, Ill.

The building formerly occupied by the late Joseph Slack as a soap factory at Litchfield, Conn., has been sold to be remodelled into an ice house.

A small blaze broke out on Dec. 10 in the soap powder factory of Halpin & Schultz, Brooklyn, N. Y. It was put out before much damage resulted.

The Globe Soap Company's works at Cincinnati, were burned on December 13. The loss is estimated at nearly $100,000. The offices have found temporary quarters, and plans for rebuilding are already under way. The officers of the company, according to local reporters, believe that the fire was the deliberate work of a discharged employe, and the police are even reported as being in possession of a written confession to that effect from a young workman.

His confession that he started a blaze in the paper packing in the powder room on the second floor of the glycerine plant does not account for the fact gathered by President Ives, of the company, from a number of his employees, that three fires in separate parts of the factory were discovered simultaneously. Members of the firm and employees believe that there are others implicated in what they term a plot to destroy the plant.

The Ahamo Soap Co., of Omaha, Neb., is reported to be considering the erection of a soap factory of its own in that city. Its soaps at present are made outside of Omaha.

The Diamond Soap Company, of Glen Rock, sixteen miles south of York, Pa., is a new incorporation, intending to make soap and sell it on the premium plan.

The Fox River (Wis.) Soap Co. has its new plant in fair working order by this time.

James N. Gamble, of Cincinnati, Ohio, is at the head of a movement to prevent gambling in that city. Good luck!

San Francisco, Dec. 18.—W. C. B. de Fremery & Co., as assignees of G. W. McNear & Co., filed a libel yesterday in the United States District Court against the ship Grenada to recover $2,000 for damages to a cargo of soap shipped from Antwerp to McNear & Co. in this city. Libelant alleges that the soap was improperly stowed and that it was damaged by water.

They say that the Schwarzschild & Sulzberger Company, which entered the soap business by getting interested in the Boston plant of John Reardon & Sons lately, is gladdening the hearts of New England butchers by contracting for all their fats at a good advance over the prices they were accustomed to for the last five years. It's a good thing for the butchers, and a bad thing for other users of fats. Just what it is for the S. & S. Co., we don't know as well as they do.

The soap works at Guelph, Ontario, have been sold to E. J. and J. C. Walker.

Kansas City, Mo., Dec. 9.—J. N. Gamble, of the Proctor & Gamble Soap Company, who was in the city yesterday, intimates that it will depend largely upon the employes of their new plant in Kansas City as to whether the profit sharing system which has made their Ivorydale plant famous will be put in force here.

"We believe in the profit-sharing system," he said yesterday at the Hotel Baltimore, "and are always willing to do our part by our employes if they will do theirs by us. Anything of that kind comes as a result of good faithful work and attention by employes to our interests

as well as their own. If our people in Kansas City prove to be as good as those in Ivorydale, they will be given the same advantages."

The office managers of the Larkin Soap Co. prepared an entertainment for their numerous employes for December 24. It is said that among over 600 attendants by far the majority were young women, and we feel rather slighted that instead of a complimentary tieket we got only a post-mortem account of the oeeasion. Still, we are bound to record that, aecording to all accounts, the entertainment was an unqualified success, (even in our absenee). Mr. W. R. Heath opened the festivities by an address in which future events of a similar nature and annual reeurrence were foreshadowed. Mr. John D. Larkin and Secretary D. D. Martin were "called before the curtain," and presents from a real Santa Claus flavored the enjoyment for all present.

C. J. Gratiot, of St. Louis, Mo., has applied to the Little Rock, Ark., board of Trade, for an expression of opinion on his opening a soap faetory in that city.

Proctor & Gamble have bought the soap works at Washington C. H., Ohio. The plant is to be dismantled and the machinery shipped to Ivorydale.

Additions to Our Brand List.

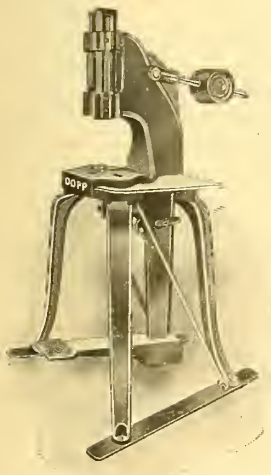
Big Cape, Cape City S. Works., Cape Girardeau, Mo.
Dolly Varden — A. W. Wilwid & Co., Newark, N. J.
Fawn—Cumberland (Md. Soap Co.
Merry War, Cape City S. Wks., Cape Girardeau, Mo.
Oleo—Germ. Amer. Soap Wks., New Orleans.
Power Soap — F. Martin, Columbus, Ohio.
Radium—Natl. S. Corporation, Boston.
Strajuso—Frazer Soap Co, Chicago, Ill.
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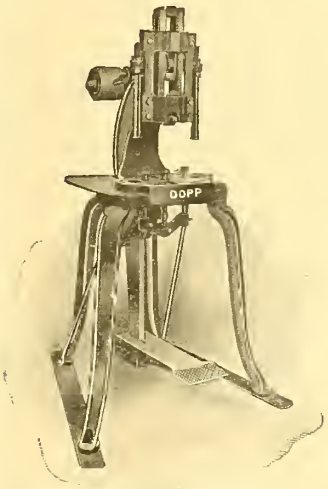
The attention of our readers is called to the column of

"WANTED" AND "FOR SALE"

advertisements on another page. Manufacturing firms looking for intelligent up-to-date help, or who have second-hand machinery they wish to dispose of, and practical men experienced in any branch of manufacturing chemistry looking for employment, can mutually profit by using this column.

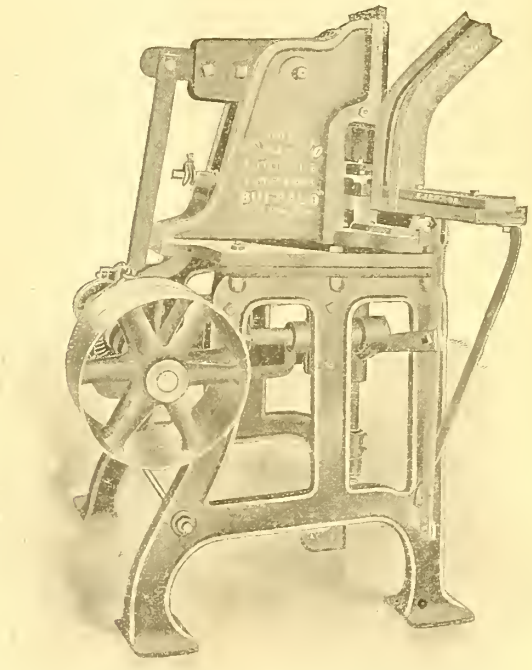


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SUPPLEMENTARY LIST
OF THE
BRANDS OF SOAP MANUFACTURED IN THE UNITED STATES
Including also the Brands of Foreign Manufacture Registered as Trade-Marks in this Country.

NOTE: This list is compiled with the greatest possible care, but the publisher does not assume any responsibility other than to correct and to complete the list according to data obtained from official sources or furnished by the trade. Brands registered in the patent office as trade-marks or labels are given with the name of the party registering same. Brands or names marked * are those which were found to be used by more than one firm or the owner of which could not be ascertained. ☞ SEE THAT ALL YOUR BRANDS ARE ENTERED IN YOUR NAME.

3 Liberty Mfg. Co., Chicago.
113 Puck Manufacturing Co., Des Moines, Iowa.
344 Home Soap Co., N. Y.
345 Columbia Ref'g. & M'f'g Co. Ltd, New Orleans.
346 Beaumont Soap Co., Mayfield, Ky
347 Lockwood Soap Co., Kansas City, Mo.
348 Oklahoma Soap & Oil Co., Oklahoma City.
349 M. F. Windsor Soap Co., East Buffalo, N. Y.
350 Florida Cotton Oil Co., Jacksonville, Fla.
351 Brown Soap Co., Dayton, Ohio.
353 Southern Soap Co., Birmingham, Ala.
354 Zion City Soap Factory, Zion City, Ill.
355 Palami Co., Boston, Mass.

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Lemolive 54
Lemonine, E. H. Kraut, Cincinnati.
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Position Wanted: By an experienced laundry and milled toilet soapmaker; one who can take charge of factory and furnish the best of reference. Address: B. Y. T., care of American Soap Journal, Milwaukee, Wis.

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W. A. MOTT

Soap and Oil Chemist

P. O. Box 810 New Orleans, La.

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Write for terms &c.

The American Soap Journal & Manufacturing Chemist.

A MONTHLY JOURNAL OF THE MANUFACTURING CHEMICAL INDUSTRIES.

DR. HENRY GATHMANN, PUBLISHER. 2707 North Ave, Milwaukee. **MILWAUKEE, WIS., February 1, 1905.** VOL. XV. No. 6.

THE

AMERICAN SOAP JOURNAL

AND

MANUFACTURING CHEMIST.

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OFFICE OF PUBLICATION:

2707 NORTH AVENUE, MILWAUKEE, WIS., U. S. A.

The AMERICAN SOAP JOURNAL AND MANUFACTURING CHEMIST is devoted to the interests of all manufacturing industries of a chemical character, and is an absolutely independent publication. It is the only newspaper of its kind in America and has also a large foreign circulation.

For Subscription and Advertising rates see above.

Communications on industrial subjects, news items, and any information suitable for printing in these columns, are solicited and will have due attention.

Readers in search of machinery, supplies etc., not advertised in these columns, are invited to write us and we shall endeavor to supply the information.

Address all communications to

DR. HENRY GAHMANN, Publisher,
2707 NORTH AVENUE,
MILWAUKEE, WIS., U. S. A.

Last month an attack of the grippe prevented the editor of this paper from reading the proofs and doing some other things which he ordinarily does. One result of this was a somewhat remarkable typographieal error in the first line of the seeond column on page 117, which escaped attention till too late. The word "exeept" should really have been *"expect."* The perversion of the meaning through this error would be ludierous if it were not so aggravating. We won't have the grippe again—if we can help it.

One of our subscribers, to our regret, found that in respect to this paper one ean also have "too much of a good thing." He writes: "Please discontinue my subscription, for I am getting three copies every month now. It seems the ——— Co., and also the ——— Works, are subscribers to the Journal, and all these papers eome to me."

When a soap maker subscribes for a paper on his own account, and his firm, through two different departments, subscribes for it also, it is eireumstantial evidence enough to conviet the paper of having some sort of circulation.

At this time all owners of valuable soap brands are intensely interested in the Bonynge Trade Mark Bill. The present status of registered brands is diseussed in this issue of the Soap Journal from two opposite points of view by two different writers, both of whom, however, when rightly understood, show clearly that the system of registration as now in force is sadly deficient. To remedy this peculiar state of affairs, the Bonynge Trade Mark Bill has been introduced and was passed by the House of Representatives on January 14th, by an unanimous vote. The chances seem favorable that the Senate will also pass the bill before adjournment on March 4th. It has been a labor of years to reach this very important point, and it is greatly to be wished that so necessary a measure be at last consummated now.

An exchange says that "Housewives in Florida scrub their floors with oranges. In almost any town in the orange-growing distriets women may be seen using the fruit exactly as we use soap. They eut the oranges in halves, and rub the flat, exposed pulp on the floor. The

acid in the oranges does the cleansing and does it well, for the boards are as white as snow after the application."

Perhaps this accounts for the small amount of soap manufactured in Florida. Or perhaps it is vice versa.

The Gibbons Bros. Laundry of Chicago advertises in the laundry trade press that for $5.00 it will furnish laundries with a formula for making their own soap at a saving of "hundreds of dollars each year;" a lye scale accompanies the formula, free of extra charge, and "ten cents worth of raw tallow from the butcher's store made into soap by this formula washed $18.71 worth of laundry work beautifully."

As this offer once more holds out the hope that the formula will prevent the wicked soap maker hereafter from selling the laundries "water at the price of soap," it is a serious problem whether soap manufacturers had better just shut up right now, or attempt to get possession of this valuable formula.

A decision was handed down by the Board of General Appraisers overruling the protest of Victor Spitz against the assessment of duty at the rate of 50 per cent. ad valorem under paragraph 425 of the Tariff Act on an importation of artificial fruit in the form of apples, pears, peaches and oranges. The protestants contended the merchandise to be properly dutiable at 15 cents per pound under the provisions of paragraph 72 of the same act, as fancy soap.

The evidence submitted to the Board at the hearing consisted of samples of the goods in question, which were beautifully colored with some substance to make them impervious to water. It was decided by the Board that the merchandise certainly could not be used as soap.

Just about fifteen years ago now, when we interviewed a few soap manufacturers on the feasibility of publishing the American Soap Journal—the trade being without any trade paper whatever then—we found every one of them complaining of the utterly demoralized condition of the soap business. The complaints have not ceased in all this time, but all the firms interviewed then have continued in business and even enlarged their works!

And incidentally the American Soap Journal, during these fifteen years, has become more and more definitely a part of the trade which it endeavors to serve.

FROM OUR CORRESPONDENTS

HUSH MONEY.

London, England, Dec. 19, 1904.

Editor American Soap Journal.

Dear Sir: We are glad to see from your issue of 1st inst., that you are taking up this important question of Bribery of Employes. It is rather a coincidence that we should have found it necessary to follow a similar course here, and we have pleasure in enclosing copy of a letter which recently appeared in "The Times" on the subject. There are also two paragraphs in the last issue of "Truth" to which we would invite your attention, and as our Chambers of Commerce on this side are taking the matter up, and we are endeavoring to interest other traders, with a view to general action in the matter, we shall be pleased to co-operate in any action, having for its object the suppression of a growing evil, which is seriously threatening the existence of honest trading.

Yours faithfully,
JOHN KNIGHT & SONS (LIMITED),
John W. Hope, Managing Director.

[Enclosure.]

To the Editor of The Times.

Sir: In the report of the result of an action, "Bradley vs. Harrods' Stores," we were astonished to read that Mr. Justice Grantham, when he summed up, said that the only fact in support of the view of Harrods' that Bradley was acting dishonestly was that he tipped some of the Stores' employes. "If one were liable," his Lordship is reported by you to have said, "to a charge of conspiracy for giving a porter a tip, every one would be in a position of risk." According to another report his Lordship said, "There is nothing criminal in a tip, and a little palm oil has often been found to make the wheels of business run smoothly." If, as we have no reason to doubt, Mr. Justice Grantham is correctly reported, we can only deeply regret that his Lordship should entertain such sentiments, and deplore that they were given expression to by one administering justice.

We in common with very many firms throughout the country have tried and are striving to put an end to the evil which Mr. Justice Grantham is pleased to style "palm oil," but which is more correctly described by the words "hush money," for be it remembered that where fair dealing exists there is no reason for either buyer or seller having to adopt what, in our opinion, can only be described as dishonest practices in "order to make the wheels of business run smoothly."

Recent legislation has been directed against what is known as secret commissions. Wherein lies the difference between these and so-called "palm oil"?

We know nothing of the merits of the Harrods' Stores case, but cannot allow such utterances from high places to pass without the strongest protest we can put forward.

All honorable men will agree that this so-called palm oil is one of the greatest curses the commercial world has to cope with, and those who make use of it should remember that, apart altogether from the actual dishonesty of such methods, they are gradually enlightening the foreigner how to obtain the means of capturing it may be their own customers.

Apart from these considerations, however, the expression of such views by one who holds a position of grave importance must have a most demoralizing effect, and may we express the hope that Mr. Justice Grantham will take an early opportunity in the interest of honest trading to make clear what his meaning was, as we cannot believe his Lordship would knowingly countenance the meaning his words undoubtedly convey.

Yours faithfully,

JOHN KNIGHT AND SONS (LIMITED).

The Royal Primrose Soap Works, Silvertown, E.

A GOOD WISH.

Chicago, Dec. 29, 1904.

Dr. Henry Gathmann.

My Dear Sir: That your paper will continue to prosper and that you will find 1905 the best year you ever had and the worst year you ever will have, is the wish of

Yours truly,

H. J. BOULDEN.

A CORRECTION.

Chicago, January 22, 1905.

Dear Dr. Gathmann:

A glaring error crept into my article in your paper for Dec. 1st. In the eighth line on page 94, second column, instead of 154 or 144 lbs. eochin oil, it should read, 13 lbs. Castor Oil.

Yours truly,

KARL HEILBRONNER.

SOAP MAKING FAR AWAY.

Port Louis, Mauritius, Nov. 7, 1904.

Editor American Soap Journal.

Dear Sir: I am once more in Mauritius, after 17 years of absence, and this length of time has wrought changes I never dreamed of. . . . There is nothing here to make soap of but cocoanut oil, and they make here only red mottled soaps, which turn as hard and brittle as glass and cannot be cut by the retailers. I should say about 80 per cent., if not more, of the soaps used here come from England, chiefly Gossage's and Crossfield's.

Whereas English soaps with about 100 per cent. of resin, I should say, and perhaps 10 per cent. of hardening fillers, sell here at about $5.00 the 112 lbs., the colonials make here pure cocoanut oil mottled and sell it at about $3.75, using next to no silicate or other fillers. The soap is made in about three hours from start to finish, and over an open fire. . . . A great drawback of this hard, brittle, mottled soap is the impossibility of cutting it into small bits; for soaps are retailed here mostly in one-cent pieces, and as retailers cannot cut the 3 to 4 lb. bars of this mottled soap as sold by the makers, they prefer the English resin soaps.

Yours etc.,

A. D'ESTAMPES.

The Proposed Trade-Mark Law.

BY ARTHUR P. GREELEY, LATE ASSISTANT COMMISSIONER OF PATENTS.

Registration of trade-marks under the present trade-mark law of the United States is of no practical value to American owners of trade-marks. The law requires a registration fee far in excess of that required in any European country, and the certificate of registration adds nothing to the protection enjoyed by owners of trade-marks under the common law doctrine of "unfair competition" without registration. Registration under the present law is of importance only as a prerequisite to registration in foreign countries, and even in this respect the law falls far short of its intended purpose.

The law, instead of providing that all marks which would be held by the courts are entitled to protection under the common law, makes the Commissioner of Patents the sole judge of what shall be registered as a trade-mark, without appeal from his decision and without the possibility of mandamus to compel him to register a mark even though it were held by the courts to be a valid trade-mark. A section of the law evidently intended to permit the registration marks for the purpose of enabling their owners to register them abroad and so protect them, is so obscurely worded that it is without effect. With the increase of our foreign trade in manufactured articles and the consequent increase in importance of the protection abroad of the trade-marks of our manufacturers and exporters, the rulings of the Patent Office, instead of growing more liberal in the matter of registration, have grown more and more technical and arbitrary, until it has become impossible for either an American or a foreign owner of a trade-mark to secure its registration in the form in which it is used even if registration can be secured at all. As a result, foreign owners of trade-marks have been de-

prived of rights to which they were entitled under the provisions of treaties and conventions solemnly entered into by the United States, and American owners of trade-marks, instead of being aided in their efforts to secure protection for their trade-marks abroad, have been hampered and hindered and even absolutely prevented from securing such protection and compelled to see their trade-marks counterfeited in the foreign markets and their trade destroyed without the possibility of redress. It is no uncommon thing for American manufacturers to find that the trade-marks which they have made valuable as the distinctive marks of their goods have been not only copied and used by foreign competitors, but have even been registered abroad and thus become the property of such competitors, the possibility of this usurpation of their trade-marks being, it is true, due oftentimes to their own neglect, though largely due to the impossibility of securing registration under the present law as construed by the Patent Office, and the consequent impossibility of securing registration abroad.

The rapid development of our foreign trade in manufactures has awakened American manufacturers to the importance of securing relief from the defects of the present trade-mark law. The matter of the revision of the trade-mark law has been before Congress for many years and it is gratifying to everyone interested in the growth of our foreign trade that at last there is an excellent prospect that the relief so long sought will not be long delayed. The Committee on Patents of the House of Representatives, on December 19, 1904, reported, with a recommendation that it pass, a bill introduced by Mr. Bonynge of that committee (H. R. 16, 560), which is calculated to make a radical change in the present practice of the Patent Office in the matter of the registration of trade-marks and to give, as stated in the Committee's report, "the relief which the owners and users of trade-marks are justly asking at the hands of Congress."

This bill has been ably drawn after a full consideration of the defects of the present law, the limitations on the power of Congress under the Constitution, and the necessities and rights of the owners and users of trade-marks. The bill is based on the clause of the Constitution which gives to Congress the power to regulate commerce "with foreign nations and among the several States," and is within the lines of the recommendation made by Thomas Jefferson to the Second Congress respecting the protection of what are now known as trade-marks. The bill is also within the lines of the recommendations made by the Commission to revise the patent and trade-mark laws, appointed under the act of June 4, 1898, and embodies many of the provisions of the proposed trade-mark bill recommended by me as a member of that Commission, as well as some of the provisions of the bill recommended by the other members of the Commission. The bill in its present form has the approval and support of the American Bar Association, the National Association of Manufacturers, the Patent Law Association of Washington, the New York Bar Association, and, when its provisions are understood, will receive the support, it is believed, of manufacturers and users of trade-marks throughout the country.

As stated by the Committee on Patents, the main objects sought to be accomplished by the bill are: "First, to make provision for the registration of trade-marks used in interstate commerce, as well as those used in foreign commerce and in commerce with the Indian tribes; second, to provide a procedure which will give uniformity to the laws governing the registration of trade-marks; third, to provide additional penalties for the infringement of a registered trade-mark; fourth, to reduce the fee required on filing an application for the registration of a trade-mark; fifth, to regulate the procedure for the registration of a trade-mark governing cases of interfering or conflicting claims to the use of trade-marks; sixth, to make our statutes conform to treaty stipulations entered into between the United States and certain other governments."

Stated more in detail, the bill provides for the following advantages to owners of trade-marks not enjoyed under the present trade-mark law:

The registration fee is reduced from $25 to $10.

Marks used in interstate commerce are registrable, thus permitting the owner of a trade-mark to secure registration here before using his mark in foreign trade, and, having secured registration here, to protect the mark by registration abroad, before actually sending his goods bearing the mark to the foreign markets. This will prove to be of very great advantage to our exporting manufacturers.

All marks which could under the common law be regarded as trade-marks are registrable and cannot be refused registration because of including what may be considered non-essential matter. This is of very great importance in permitting trade-marks to be registered in the precise form in which they are used instead of in the mutilated form in which they are now permitted to be registered.

All marks which have been in actual use for the past ten years are registrable, thus providing for the protection of marks which, even if not strictly trade-marks at the date of their adoption, have, by long-continued use, become the recognized distinctive marks of the goods of those who have used them.

The final decision as to whether or not a mark is registrable no longer is to rest with the Commissioner

of Patents, but with the Court of Appeals of the District of Columbia, thus insuring stability of the practice.

The registration of trade-marks by any other than the real owner is carefully guarded against by providing for the publication of the applications in advance of actual registration, so that the real owner may have an opportunity to oppose the registration.

Foreign owners of trade-marks are permitted to register their marks on showing that they are in fact the owners by reason of having registered the marks in their own countries, and without requiring them to show use of their marks in commerce with or without the United States, thus giving effect to treaty agreements.

By reason of these provisions, it will be possible to place on the register practically all trade-marks in use in the United States, as very few trade-marks are used wholly within any State.

The provisions for the protection of registered trade-marks are such as to make registration of great importance aside from the question of their use in foreign trade. Under the provisions of the bill the owner of a registered mark has a right of action in the United States courts against anyone who uses an infringement of it in interstate commerce or in foreign commerce, thus reaching, through the United States courts all infringers except those who use the infringement in merely local trade. If the infringement is proved, not only may the actual damages be recovered as at common law, but three times the actual damages may be recovered, if, in the opinion of the court, the circumstances warrant such recovery. This will probably prove of material importance in cases of willful and persistent infringements. The bill also provides that in case infringement is proved the owner of the registered trade-mark may compel the infringer to deliver up all labels and receptacles bearing the infringing mark. Another important provision is that in case an owner of a registered trade-mark secures an injunction against an infringer in one circuit, he can enforce the injunction anywhere in the United States without the necessity of bringing a separate suit in every circuit into which the infringer may shift his business.

Other features of the bill provide for giving to foreign trade-mark owners all of the rights enjoyed by domestic trade-mark owners, thus giving effect to treaty agreements.

The provision for opposition and cancelation of trade-marks protect the rightful owners of trade-marks against the registration of their marks by others so that the bill, when it becomes a law, will neither permit protection to be refused to the rightful owners of trade-marks nor permit any advantage to be gained by anyone not actually the owner. There is nothing in the bill which interferes with the common law rights of owners of trade-marks and the passage of the bill cannot be detrimental to any rights of the public or of owners of trade-marks, but, on the contrary, will be of great and lasting benefit, not only to the foreign trade of the United States, but also to domestic trade. No effort should be spared to secure the early passage of the bill.

Obtaining Patents and Registering Trade-Marks.

The only monopoly recognized by the government as not being inimical to the public welfare is that which is officially granted to the man who has perfected a useful invention or devised a trade-mark to distinguish a superior article which he proposes to place on the market. Nothing but a desire to improve the condition of the general public would be a sufficient justification for the granting of the limited monopoly of the patent system, but the keen competition of modern commerce has caused the merchant and the buyer to closely scrutinize and quickly discriminate between articles of different degrees of merit, and as a stimulus to invention and to the production of superior goods, congress, acting under the direct mandate of the constitution, has provided a method by which the inventor may enjoy the fruits of his ingenuity for a period long enough to insure his reward, after which the public is free to avail itself of his genius.

The importance of protecting inventions and all productions of superior quality becomes greater with each succeeding year which sees the market flooded with new devices and new compositions and preparations of every description. Great fortunes have been made from the simplest inventions, while some of the most prosperous business houses in the country have been built up on the basis of a trade-mark that, because of the quality of goods sold thereunder, has come to stand as a guarantee of excellence the world over. If the simplicity of the procedure and the comparatively low cost of procuring a patent were better known to the public there is no doubt the present large output of the United States patent office would be greatly increased and many ingenious and enterprising persons would reap fortunes that now slip away from them, to be enjoyed, perhaps, by others of less ingenuity or skill, but with a keener conception of commercial ideas.

A patent may be obtained by any person who, in the language employed by the patent office, "has invented or discovered any new and useful art, machine, manufacture, or composition of matter, or any new and useful improvement thereof, not known or used by others in this country before his invention or discovery thereof, and not patented or described in any printed publication in this or any foreign country before his invention or discovery thereof, or more than two years prior to his

application, and not patented in a country foreign to the United States on an application filed more than twelve months before his application, and not in public use or on sale in the United States for more than two years prior to his application, unless the same is proved to have been abandoned, upon payment of the fees required by law and other due proceedings had."

While an inventor can legally prosecute his own application for a patent, he is advised by the commissioner of patents "unless familiar with such matters, to employ a competent attorney, as the value of patents depends largely upon the skillful preparation of the specification and claims." The work of procuring patents has become so well systematized, however, that the procedure is simple and there is so much competition, even among the most proficient attorneys, that the cost of procuring a broad, well balanced patent is relatively small. An inventor should not be satisfied with a patent containing narrow claims, for such patents may easily be evaded by others without technical infringement, and it is in the drafting of broad claims that the services of a competent attorney are necessary.

Any one having a device which he wishes to protect by a patent should prepare a sketch, photograph or model, together with a written description and forward it to a reputable attorney. He should describe his invention in his own way and not endeavor to follow set forms. If the invention is at all complicated he should designate the various parts in the sketch, photograph or model by letters or numerals, and refer to them in his description. A model is not required by the patent office, but it often enables the attorney or the examiner to arrive at a clear understanding of a complicated invention in the shortest possible time.

On receipt of the description, drawing or model, the attorney will prepare the necessary papers and forward them to the inventor for his signature. They will then be returned and filed in the patent office to undergo the scrutiny of the examiner in charge of the particular class to which the invention belongs. In some cases the attorneys find it desirable, upon receiving drawings or models of inventions, to make preliminary searches of the files of the patent office, to determine whether the devices have been anticipated by other inventors, before filing formal applications. Occasionally as the result of such search an inventor finds that some one else has thought out the same idea months or years before and he is thus saved the expense of proseeuting an application certain to be rejected. The result of a seareh, however, is not always conclusive, for in many eases valuable patents may be secured in spite of apparent anticipation, while in others devices which at first glance appear to be entirely novel are rejected on the ground that all the principles employed are old and in some cases have long been the property of the public.

After the papers in the case reaeh the examiner the skill of the attorney is brought into play. It is obvious that the patent having the largest number of broad claims is of the greatest value and the efficient attorney contests with the examiner each point and every objection that is raised against the inventor's elaims individually or eollectively. Finally, in the ease of a novel invention of marked ability, the application with regard to which has been well handled, a patent is issued embodying numerous comprehensive claims which effectively cut off infringements and guarantee to the inventor large financial returns.

It often happens that two men are engaged in working out a single invention and in such cases they are entitled to a joint patent; neither of them can obtain a patent for an invention jointly devised by them, nor can independent inventors of distinct and independent improvements in the same machine or device obtain a joint patent for separate inventions. The fact that one person furnishes the capital and another makes the invention does not entitle them to make an application as joint inventors. They may, however, become joint patentees under a special rule of the patent office which provides that "in case of an assignment of the whole interest in the invention, or of the whole interest in the patent to be granted, the patent will, upon request of the applicant embodied in the assignment, issue to the assignee; and if the assignee hold an undivided part interest, the patent will, upon like request, issue jointly to the inventor and the assignee; but the assignment in either case must first have been entered of record, and at a day not later than the date of the payment of the final fee; and if it be dated subsequently to the execution of the application, it must give the date of execution of the application, or the date of filing, or the serial number, so that there can be no mistake as to the partieular invention intended."

An important class of inventions for which many thousands of patents have been obtained embraces medicinal and chemical preparations. The special class covering strictly medicinal preparations is relatively small, but the field in which the chemist may obtain protection for his inventions is second only to that embracing mechanical devices. In order that the scope of claims for originality of chemical preparations may be understood the patent office has prepared the following typical form of specification for "the removal of hair and grease from hides preparatory to tanning," which will give an excellent idea of the manner in whieh these elaims must be presented:

My composition consists of the following ingredients, combined in the proportions stated, viz.:

Water, substantially pure.....500 gallons.
Unslaked lime 350 pounds.
Soda-ash (sodium carbonate).....100 pounds.

Saltpeter (nitrate of an alkali metal.) 20 pounds.
Sulphur (preferably flowers of sulphur) 10 pounds.

These ingredients are to be thoroughly mingled by agitation.

In using the above-named composition the hides should first be freed from all salt and impurities by soaking green hides one day and dry hides eight days. The hides so cleaned are then placed in the said solution, and allowed to remain in it forty-eight hours. They should then be removed from the solution and unhaired in the usual way.

By the use of the above composition the hair is speedily and thoroughly loosened, and the hides, while retaining all of that portion of the substance which can be converted into leather, are at the same time entirely cleaned from grease and other substances which would prevent them from being tanned quickly.

I am aware that a composition consisting of soda-ash, water, lime and sulphur has been used for the same purpose, and that a patent therefor was granted to C. L., July 10th, 18——, No. ——. I am also aware that saltpeter has been used in depilatory processes but I am not aware that all the ingredients of my composition have been used together.

What I claim, and desire to secure by letters patent of the United States, is: 1. The hereindescribed composition of matter, consisting of water, unslaked lime, soda-ash, saltpeter, and sulphur, substantially as described and for the purpose specified. 2. The herein-described composition of matter for depilating and preparing hides for tanning, consisting of pure water five hundred gallons, unslaked lime three hundred and fifty pounds, soda-ash one hundred pounds, saltpeter twenty pounds, and flowers of sulphur ten pounds, substantially as described.

The cost of patents varies somewhat in accordance with the complicated character of the invention, but for a medicinal or chemical preparation or a simple mechanical device of any kind the expense should not be far from $60, of which the government receives $15 as original filing fees and $20 when the patent is allowed, while the attorney receives about $25.

The life of a patent under the laws of the United States is seventeen years and can be extended only by act of congress. All civilized countries recognize the expediency of granting a limited monopoly in his invention to the inventor and maintain patent systems somewhat similar to that of the United States. All reputable attorneys have facilities for patenting American inventions in all foreign countries, the cost averaging a little more than in the United States.

TRADE-MARKS.

Of equal importance with patents, from a purely commercial standpoint, are trade-marks which embody names, symbols, devices or emblems used by a manufacturer or merchant to distinguish the article of merchandise which he produces or sells from that of others, in order that such merchandise may be known as his and that he may secure the profits arising from its reputation or superiority. Such trade-marks may be registered in the patent office, whereupon the government issues a certificate of registration the benefit of which extends for a term of thirty years and may be renewed for a further term of thirty years. Such registration is public notice to the world that the man registering the trade-mark claims the same as his exclusive property, and the cost of registration, including a reasonable attorney's fee, is about $45.

To register a trade-mark it is necessary only to furnish an attorney with a drawing or facsimile of the device which it is desired to protect. The attorney will prepare a form of application for signature and the papers will then be filed and referred to the examiner. In view of many conflicting decisions rendered in recent years the principles governing trade-mark registration are not rigidly defined, and a shrewd and experienced attorney is frequently able to secure registration of a trade-mark when, if the case were urged with less energy and ingenuity, failure would have followed. An effort has recently been made in some quarters to minimize the value of the protection afforded by trade-marks for the purpose of arousing all interested persons to secure the enactment by congress of more comprehensive laws. While the object of this movement is praiseworthy enough, nevertheless it does not justify the widely published statements in which it is declared that under existing law the trade-mark affords little or no protection to the owner.

The cause of this agitation is a decision rendered by the United States supreme court a few months ago in the case of Warner vs. Searle & Hereth Co., in which the complainant undertook to enjoin the manufacturers of a proprietary preparation known as pancro-pepsin on the ground that it was an infringement of a registered trade-mark, pancreopepsine. The proof in the case showed that the preparation bearing the alleged infringing trade-mark was sold in the State in which it was manufactured. The supreme court after very full deliberation rendered a decision to the effect that, owing to omissions in the trade-mark laws, the registration in the United States patent office of trade-marks employed on goods sold in inter-State commerce or within the State in which they were produced afforded no protection, as the scope of the statute was limited to trade-marks used in foreign commerce or commerce with the Indian tribes.

In citing this decision many writers have asserted that the supreme court holds that the federal trade-mark law is valueless as between citizens of the United

States and that it is impossible to prevent infringements in this country. While it is perfectly obvious that the court has restricted the functions of the federal law, nevertheless the inference that because trade-marks intended to be used in domestic commerce can not be fully protected merely by registration in the patent office they are therefore valueless, is wholly unwarranted. Such a contention is based upon complete ignorance of the character of the property right in a trade-mark which has been recognized from time immemorial under the common law.

The right does not accrue from the registration of a trade-mark but through the adoption thereof. The function of registration is simply to provide a convenient method of proving in the most authoritative manner the date and scope of the claim to the trade-mark as made by the alleged owner thereof. If the owner is in possession of other evidence of an incontestable character as to when his trade-mark was first used by him, whether it be in commerce with foreign nations, with the Indian tribes, between States or wholly within a State, it is not necessary for him to apply for registration in the United States patent office or elsewhere. He can defend his property against all comers who cannot show priority of use and he can punish infringement.

One of the most effective methods of obtaining evidence as to the adoption and priority of use of a trade-mark that can be resorted to is to advertise the mark as widely as possible in trade journals, the files of which can be produced in court at any time. Such publication will defeat the rights of any subsequent claimant to the same trade-mark and will form the basis of an action for infringement. The owner of a trade-mark should waste no time in making public claim thereto in order that he may not lose his rights by sleeping on them until some more enterprising person makes the necessary publication and thus lays the basis for monopolizing the mark.

PRINTS AND LABELS.

In addition to trade-marks, prints and labels may be registered in the United States patent office. By the word print is meant "any device, picture, word or words, figure or figures (not a trade-mark) which is impressed or stamped directly upon the articles of manufacture to denote the name of the manufacturer or place of manufacture, or the style of goods or other matter." By the word label is meant a slip or piece of paper of other material "to be attached in any manner to manufactured articles or to bottles, boxes or packages containing them and bearing an inscription (not a trade-mark), as the name of the manufacturer or the place of manufacture, the quality of the goods, direction for use, etc." Six copies of each print or label must be filed with the application and such registration will continue in force for twenty-eight years. The total cost of obtaining a certificate of registration for a print or label is about $20. Of course it is obvious that in many cases where a trade-mark is used the registration of the label upon which it is employed is superfluous, but in other cases where no definite trade-mark is employed, labels of special design having a distinctive appearance may be protected with decided advantage to the owner.—Druggists' Circular.

Crude Glycerine.

Few substances cause more disputes between buyers and sellers than does crude glycerine. The reason of this unfortunate state of affairs is not far to seek. The glycerine is usually sold as "80 per cent. crude," on the understanding that allowances will be made for all excess, and that a reduction (amounting to double the excess allowance) will be made on shortage.

Unfortunately, the estimation of glycerine has not been brought to such a fine point as has the analysis of inorganic bodies. It is no unusual occurrence for the difference between buyers' and sellers' analysis to amount to well over 1 per cent. The matter has then to be referred to a neutral analyst whose decision is regarded as final.

When one considers how much the price of crude glycerine has gone up of late years it is not to be wondered at that the refiner should insist on having the full value of his money, nor is it surprising that the soapmaker or candlemaker should object to giving more than he has bargained for. Occasionally, however, this principle is carried too far. Invoices are sometimes received by buyers in which 0.1 per cent. excess is charged for. In such a case as this, the seller is putting too much reliance on the results of analysis.

The truth is that a batch whose analysis comes out at 80.1 per cent. glycerine, is as likely to be slightly under 80 per cent. as over it. The methods in use for the estimation of glycerine are not to be trusted within .5 per cent., and consequently a smaller excess than that should not be charged on. Not only is this the case, but everything depends on the method used for the estimation. There are two methods in use, which often give widely divergent results. These are the "acetin" and "bichrome" methods. Many analysts use both and take the mean of the results as the correct percentage, but if one method is more correct than the other, this proceeding gives a wrong result. On the whole, it is safer to stick to one method, and if the "acetin" method were used in all cases there would be fewer differences of opinion and little loss to either party.

In connection with the discrepancies which arise in glycerine analysis a few points with regard to sampling should be noted. "Soaplye" crude, which contains a large proportion of salts (*vide infra*), should be sampled

as soon as possible after its arrival at the factory. If the drums are allowed to stand, part of the salts settle at the bottom and the proportion of glycerine is considerably altered. No amount of shaking of the drum will dislodge all that has settled out. It is also advisable to avoid sampling during rain. The drums are very often stored in the open, and dilution of the sample takes place very readily. Glycerine is very hydroscopic and considerable alteration takes place in a very short space of time.

After the sample has been drawn (it is advisable to sample every drum), it should not be allowed to stand long before analysis, and it should be kept very carefully corked. Before any is taken from the bottle, the latter should be shaken and gently warmed until all salts at the bottom of the bottle are dissolved. Unless these precautions are observed, trouble very often arises between buyer and seller.

Crude glycerine comes on the market from many quarters. Of course, there is a very large home supply, but consignments arrive even from such far off lands as Australia and South America. Fairly large quantities come across from the continent, particularly from France.

By far the greater part of this supply is "soap-lye" glycerine, the by-product of the soap factories. It should contain about 10 per cent. of salts, mostly common salt; 10.5 per cent. is the usual limit in contracts, but occasionally the limit is placed as high as 11 per cent. The specific gravity of this glycerine is sometimes stated as being 1.3, but it varies greatly, and no reliance can be placed upon it as an indication of the strength.

The most objectionable impurities from the refiner's point of view are sulphides and thio-sulphates. Consequently, these must be carefully tested for before the distillation is started. The refiner can then arrange his lots so as to reduce the percentage of objectionable matter in any one batch by mixing the more impure qualities with other lots which are free from sulphides and thio-sulphates. British made crude is fairly free from these impurities, but consignments from France often contain fairly large traces.

What is known as "saponification" glycerine is another form of crude which the refiner has to deal with. Considerable quantities of it arrive from abroad and it commands a good price. In appearance and qualities it differs greatly from "soap-lye" crude. It is obtained from the candle factories principally. It is usually very dark, almost black in color and is much less viscous than the glycerine from the soap-works. Its specific gravity is much lower, and it is almost entirely free from salts. The latter do not as a rule exceed 1 per cent. and are often under .5 per cent. The glycerine content, on the other hand, is very much greater, varying from about 86 per cent. to as high as 94 per cent.

A great deal has been heard of late of the ferment process for saponification, in which oils are hydrolized by means of a ferment contained in castor oil beans. So far this method is only at the experimental stage, but it may not be long before the glycerine obtained in this way appears on the market as a rival to the products in our older processes.

Many of our large soap and candle-makers refine their own glycerine for the explosives trade, but in some cases the refining is carried out by the explosives manufacturers themselves. The refined product, as used for the manufacture of nitro-glycerine is practically pure glycerine. Its ash is generally much below .05 per cent., and in colour it is pale yellow or straw-colored. The heavy metals are absent, and almost the only inorganic impurity is a minute trace of sodium chloride.

There is very little chance of nitro-glycerine being superceded by a more powerful explosive, and consequently there is no reason to fear any diminution of the demand for "Dynamite Glycerine," as the refined product is called, nor is there much chance of the price falling off greatly, unless some new and inexpensive method of obtaining glycerine should be discovered. This latter supposition is unlikely. The only large natural sources of glycerine are oils and fats, and there are no oils from which it could be obtained in large quantities, which have not already their industrial uses. The possibility of manufacturing it synthetically is equally improbable, though it still remains a possibility, and there is always the chance of the soap-maker being startled by a sudden fall in the market, due to the discovery of such a process.—Oils, Colors and Drysalteries.

The Procter & Gamble Co.'s New Soap Factory.

As our readers have long been aware, the Procter & Gamble Co. have been erecting and now have in working order a large branch soap factory in Armourdale, Kansas City, Mo. An illustration of these new "Million Dollar" works, (altogether too large to reproduce it in our paper), appeared in the Kansas City Journal for January 9, and readers desiring to have a look at the picture can no doubt gratify their curiosity by sending for a copy of that paper for the date named.

From a lengthy and, we believe, fairly authentic description of this enterprise, we abstract the following details:

The cost of the Armourdale factory was approximately $1,000,000. There are two main buildings, of pressed brick and cut stone. The larger one is 400x100 feet, 4 stories high. In it are the offices, the kettle room, packing departments, warehouse, laboratory, crutcher and framing rooms. It also has a shipping dock or platform, 300 feet long. The other building is 432 feet

long, and for 232 feet is 100 feet wide, while the rest is 66 feet wide. It is from one to three stories high, and in it are the glycerine and lye plants, boiler and engine rooms, machine shop, steaming and storage rooms, and oil refinery. The two buildings have ten acres of floor space, and the present capacity is 1,000,000 boxes of soap a year. This capacity can be greatly increased, and will be, as necessity demands.

The plant itself is an admirable example of thorough and economical construction. The walls are very thick, and all the floors are oak. The rooms are large, have high ceilings, and ample light and air. Electric fans are installed for use in warm weather. Simplicity, compactness and economy characterize the whole plant. Everything is handled mechanically; the only time the product is touched by human hands is when the finished bars of soap are wrapped and boxed. Everything else is done by steam or electricity.

The plant has its own water supply, drawn from four driven wells, whose flow is pumped into a reservoir on the north side of the plant. This has a capacity of 1,000,000 gallons and is so built that at least 100,000 gallons must remain in it for fire protection. Stairs and elevators are in solid brick, fire-proof towers. Every door is fire-proof, hung with a chain and fusible plug. A certain degree of heat fuses this, and the door is automatically closed. Watchmen, of course, are in constant service, and every room is protected by automatic sprinklers.

Ample switching facilities have been provided, and the company has its own tank cars and will soon install its own switch engine. The tracks run to and through the plant so that everything is loaded and unloaded mechanically, and just where it is wanted.

At present, the Procter & Gamble plant is not very beautiful to look upon, so far as surroundings are concerned; it is "in the rough," and only one attempt at beautifying it has been made. The sides of the cement lined reservoir have been banked and sodded. When the construction work is done, some effort to reach a more esthetic setting will be made. This will not be for purposes of "showing off." It will be for its effect on the workers. The plan has been followed in Ivorydale, and with good success. Men will not litter a lawn with trash (and trash starts fires), nor mar a flower bed with refuse.

The actual process of soap making to-day differs none in essentials from the methods of our grandmothers, who saved their fats, bones and grease, "dripped" their wood ashes for lye, and boiled the concoction till it saponified and became that nightmare of earlier days, "soft soap."

But with the passing of the spinning wheel and quilting frame has gone the home soapmaking, and science has stepped in and made from a homely, wasteful and disagreeable task, an art. The housekeeper has given over the job to the manufacturer, who not only does it vastly easier, but he turns out an article immeasurably superior. And the great increase in production correspondingly and inevitably has reduced the price, so that now soap can be used more abundantly than ever, to the everlasting gain in cleanliness of man and all his surroundings.

Very few ingredients are used in soap making and the process of manufacture is not of special interest. It is simply a chemical reaction carried out on a large scale. Let it be explained, with sufficient, though not scientific, accuracy thus: All oils and grease are the combinations of glycerine with fatty acids. When they are mixed with alkali a change takes place; the alkali combines with the fatty acids and drives the glycerine out. Starting with the fatty acids and glycerine, the result is free glycerine, and a combination of the fatty acids and alkali, which is soap. The quality of this soap depends on the thoroughness of the dissolution and resultant mixture. That perfect combination which has made Ivory Soap 99 44-100 per cent. pure is the result of the absolute precision and accuracy which characterizes every step in its manufacture, from the moment the raw materials enter the factory until they leave it in the form of a cake of soap of almost snowy whiteness.

Cottonseed oil is one of the ingredients of the Procter & Gamble's soaps. The company owns eight mills of its own wherein the oil is extracted from the seed by powerful crushers. The oil is sent to the Kansas City plant in huge tank cars. There it is drawn off and refined. Cocoanut oil, another ingredient, is imported from Ceylon in large barrels or casks, called "pipes." From these, after the laboratory has passed on it, the oil is drawn off into great steel tanks. These are on scales, though they are three stories high. Outside is a lye vat, lined with cement.

In the west end of the largest building are sixteen kettles, eighteen feet in diameter and thirty-eight feet deep, four stories high and arranged in rows. Pipes from the oil tanks, lye vats, and so on, connect with them. The pipes are opened, and a given quantity of each ingredient, mechanically measured, flows into the kettle, a huge coil in the bottom is filled with steam and the whole mass is cooked and boiled by steam blown in at the bottom. One of these kettles holds 500,000 pounds, and it takes a week to perfect the mass, which passes from one to three kettles in its process. But although dealing with tons, the handling is accurate down to the fraction of an ounce, and the process is as closely watched and gauged as with a thimbleful in the laboratory. In fact, samples of every kettle go there to be analyzed, at each step of the process, and though not knowing whence they came, the expert can accurately trace, if need be, not only every sample to its kettle, but every ingredient of every kettle to its source.

Beside each kettle are piles of salt, ready to be shoveled into the soap paste after the process of saponification is complete. This is the second step and then, though not yet finished, the soap may be said to appear. Up to this time, though perfectly combined, it has been mixed with the separated glycerine, partly dissolved in the water which accompanied the lye, and stirred up by the boiling to a sort of emulsion. The salt, added, gathers the globules of water and glycerine in the soapy paste and sinks with them to the bottom, while the clear soap curds gather at the top.

Subsequently, the salt-water-glycerine combination is drawn off and purified, the salt to be evaporated and used over and over again, and the glycerine to be marketed.

The further processes of handling the soap are only to put it properly on the market; it is now as much soap as it ever will be. The first step in what may be termed its mechanical treatment is to bring it to a proper texture. As separated by the salt, it is "stringy," and if allowed to cool in that condition the cakes would be rough and inconvenient in use. The still-melted soap is therefore drawn off through pipes and sent down stairs to a long, narrow tank, whence it passes to the "crutchers," which are simply grinding, crunching machines which knead and mix the soap till it is of uniform texture. Revolving beaters work it in great bowls, stirring and smoothing it as it cools. At just the right temperature and consistency, it is emptied into boxes called "frames," made of movable sides on a wheeled base. Each frame holds enough to make, when cooled, a solid cake weighing half a ton. When these solidify, the sides are removed from the frames.

The large kettles are boiled in succession, and thus a continuous procession of soap passes through the crutchers and into the frames. The cooling process takes place in the storage rooms, and causes some shrinking in the 1,000-pound cake. Then the big cakes are ready to be cut into bars, in which shape they reach the consumer.

The World Is Using More Soap.

BY J. L. FLEMING.

Not the least of the many signs the new year brings to prove the world is growing better, and purer are the figures which show an increase of 15 per cent. in the amount spent for soap in the year 1904 over that of 1903.

Last year there was spent a grand total (the adjective is used advisedly) of $11,500,000 for the stuff that renders men and things akin to godliness. In the year before $10,000,000 sufficed to keep the world clean. Verily the world do move! Never before did the people of the universe use so much soap as last year. If the figures do not lie, then the world should be at least $1,500,000 cleaner, sweeter, and better than it was in the year 1903. Nineteen hundred and four was the prize "clean year."

There is practically no limit to which assumptions based on these figures may not be pursued. This is an actual increase of 15 per cent. Assuming that this increase is due to a spread of the doctrine of cleanliness among the various peoples of the earth, this means that 15 per cent. of the vast number which constitutes the world's population first learned the wonderful cleansing properties of soap during the year just past. Where before only six men used soap to cleanse themselves and their apparel, seven have acquired the custom. If the hypothesis of this wonderful jump in the sale of soap be confined to apparel, then mankind at large wears its raiments but six days without washing, where before it was worn seven.

"The increase of soap sales during the year 1904 does not necessarily mean that civilized people are beginning to use this much more soap than formerly," said the head of the soap department of a large packing house that is beginning to look upon its soap department as an important part of the total income. "The great increase in this line has been in the trade in which we are developing in the countries that we are pleased to consider scarcely civilized. Our most astonishing increase in trade has been in China during the last few years. China would seem to be scarcely the place where one would look for a large soap business, but nevertheless the people who are handling our goods there are the ones who have reported the greatest percentage of increase in their total sales.

"The soap which has met with the greatest favor there is a castile soap which is sold by the inch, like plug tobacco in this country. The Chinaman, when he goes to the corner grocery to get a piece of soap, does not ask for a bar, as is done in this country, but buys it by the inch, or whatever the Chinese equivalent for such measurement is. And the returns from our China sales department prove that the Chinaman, for all that may be said against him, does buy soap frequently. If the Chinese empire, with its teeming multitudes of population, could be educated up to using soap as extensively as is done in this or several European countries, the soap factories of this country would have to work overtime to supply the demand.

"It would be unjust not to say that our sales in the states have increased considerably. I should say 5 per cent. of the total increase was due to the increased use of soap in this country. The rest must be laid to the credit of other nations. American agents and branch houses are spreading the doctrine, 'Use American soaps,' into the dark countries of the uncivilized continents."

These facts would seem to indicate there is eventually promise of the American soap agent replacing the Amer-

ican missionary in the enlightenment of the heathen of the orient. The doctrine of frequent washing and clean apparel industriously prosecuted by the men of the soap samples may yet be the solution of the white man's burden. Soap may be the means of elevating the people who are "half devil and half child," to the standards which the civilized world has said are good.

If this condition ever comes to pass then the world will see a utilization of waste product such as it has never seen before, for much of the soap on the market to-day in its component parts embraces many things which could in no other way be utilized.

The fact that a good share of the soap made to-day is made by the great packers of the country testifies to the uses which much waste animal and vegetable fat is being put. The big packing houses, with their giant killing and rendering plants to draw from, are amply provided with the foundations for an extensive soap business. There is the tallow, which is a prominent factor in the manufacture of certain soaps, and many other animal properties which are readily converted into ingredients.

With their extensive connections for purchasing throughout the country the packers are enabled to buy many other things much cheaper than would be the case with ordinary manufacturers. The convenience of a soap factory as an auxiliary to a packing plant for the using of waste product is shown by the fact that the two greatest soapmaking packers in the country are making preparations for adding to this branch of their plants.

A visit to a soap factory gives, instantly, a strong impression of "wash day" at home. There is the smell and atmosphere of soap and suds and well scrubbed floors. A soap factory is clean. This should be consolation to the people who use soap. From the vat where the fats are first boiled to the room where the covers are tacked on the boxes and the boxes piled in rows and tiers for storage, the cleanliness of the whole is impressive. Previous to the introduction of lye into the conglomerate mass that composes a soap "making," the vats and pipes are kept clean by constant scrubbing and care. After that the lye does the work and does it so well that tanks, pipes and machines are fairly burnished from contact with the unfinished soap.

The workmen in certain parts of the works wear rubber boots and oilcloth aprons in order that their persons will not become too bespattered with foul grease. In other departments the work is done by girls in neat white aprons. Soapmaking, in many of its phases, is really a fine art. There is room for the scientist and analytical chemist in the selection of the component parts, and in the finishing of the product for the market there is much scope for the work of the perfumer. In fact each large soap concern has on its staff at least one expert perfumer, whose time is devoted solely to inventing and perfecting new and pleasing perfumes. The pay of these men runs up to $50 a week, and there is no overcrowding of the profession.

The Peanut Industry at Norfolk.

Peanut culture, it may be said, started almost by accident. Fifty years ago peanuts were grown only in the gardens of a few persons in the Tide-water counties of Virginia and the Carolinas almost as curiosities. They were intended for family use, and but few were grown for that purpose. Practically no attention was paid to their culture, and although they were regarded as a wholesome and delicious food, to be eaten by the fireside during the fall and winter evenings, there was no effort to cultivate them beyond the occasional demands of the family during the entertainments of a social roast.

The commercial value of the peanut was a result of the Civil War. The soldiers, who were always hungry, discovered that the peanut was an excellent food. They found peanuts easy to prepare, pungent to the taste, and remarkably satisfying to the cravings of an empty and importunate stomach. They sought the peanuts eagerly and sounded their praise with enthusiasm. They had tried the peanut and found that it filled one of those long-felt wants for which the soldier is proverbial, and they were grateful to the peanut and loyal to it even after the war was over.

Thus the culture of the peanut was stimulated by the gratitude of the soldiers who had discovered its modest virtues during the war when they were hungry and helpless. The peanut grew with little culture and it required but little preparation for eating. Just for the drying and the roasting, after it was taken from the ground, and the pea was ready—and so, too, was the soldier. He remembered that when he returned home after the war and when food was difficult to provide without implements of labor; when all the negro laborers of the farm were gone and it was difficult to find an old plow to which to attach the faithful old horse which had been used in the cavalry service and was abandoned, like the well-worn army blanket, as worthless in times of peace, the returned soldier assigned a large space in the garden to the peanut for his own use. Then, as there were a few bushels more than the family could use, he found sale for them, till gradually increasing the space assigned to the humble peanut, he soon found that he could sell all that he could grow, and continued to increase the acreage until the peanut crop assumed a greater importance than the corn and the wheat crops, and now returns an equal amount of profit with the cotton crop. It is grown for profit. It has displaced all the profit crops—corn, wheat, oats, potatoes—all except the cotton crop, in Tidewater Virginia and Eastern North Carolina, and is now a commercial crop of great importance.

In Norfolk the peanut factories were not an accident, but a demand. The peanuts which came here were not fit for the market. They had to be cleaned, sorted and graded before they could be put on the market profitably. They came from the fields along with dirt and vines, and so mixed that there was no telling whether the purchaser was getting a bag of pops, hulls, earth and vines or a lot of edible nuts for his money. The demand to know what the bag contained was the necessity for starting the separate business of cleaning peanuts in Norfolk, called factories, the first one of which, or at least among the first, was that started in 1876, by K. B. Elliott, with one table, in Water street, where the Old Dominion Steamship Company has its office now. That was a small beginning for one of the many men who have made fortunes in the peanut business. In twenty-five years after that start with one table, Mr. Elliott retired from the business with a fortune. Meantime that factory was increased in size as the quantity of peanuts received here increased, and the trade grew with the addition of other factories till Norfolk became the greatest market in the world for peanuts; and in ten or fifteen years there was a great amount of capital used in the business of buying and cleaning peanuts for the market, amounting now to $2,000,000 annually, needed for the purpose of conducting the operations of the various dealers and factories. One of the largest dealers has a credit of $50,000 each, at two of the banks, which he uses in addition to his own private capital and facilities, for buying the nuts in the fall and winter for the employment of the factories and the demands of trade.

Among the men engaged in that trade in the early years of the peanut business, and first then as he is first now, was P. D. Gwaltney, of Smithfield, Va., who either stored large quantities of peanuts here to await the demands of the trade or had an interest in the various factories here. He and the firms with which he has been connected always received and shipped peanuts here. Then there were B. F. Walters, J. H. Cutchens, B. H. Vellines and W. R. Russell. Some of the older firms were the Norfolk Storage Co, the Old Dominion Peanut Co., the Roper Storage Co., Walters & Cutchens, and the Gwaltney-Bunkley Peanut Co. Others came in from time to time till Norfolk became the center of the trade, and the buyers and the sellers and the factories for cleaning the nuts were segregated here.

About the time the peanut cleaning factories were started here, or in 1876, Mr. P. D. Gwaltney established a line of schooners to bring the nuts from Smithfield and the adjacent country to market here. The traffic and importance of the line became so great that it was bought by the Old Dominion Steamship Company, and there is a line of steamboats plying there twice a day, the chief business of which is the peanut traffic of the Gwaltney-Bunkley Co. factories. During the peanut season, which is about ten months of the year, these boats are laden with an average of 1,500 bags of peanuts either going or coming. There are other large dealers here now, and the indications are that more are coming, because the business has been profitable for several years and many of the men engaged in it have acquired a good deal of wealth.

It is estimated that between 600,000 and 750,000 bags of peanuts are cleaned here every year, and that nearly one-half of the whole crop of the country is marketed here. The railways bring a great proportion of the crop to the market here, and the nearby cities, where there are factories, send here to buy the supply they need for the yearly output. That is, about 2,000,000 bags of peanuts represent the whole business of the peanut traffic of Norfolk.—T. S., in American Nut Journal.

Eye Soap.

The endeavor to produce a perfectly neutral soap for ophthalmic use that will not give rise to the pain that even superfatted soaps induce when introduced into the eye—the irritation often lasting for hours—has stimulated P. van der Wielen to make a thorough study of the question. The extent to which dissociation of a soap occurs when largely diluted with water (whether there be an excess of fatty acid over alkali or not), renders the problem extremely difficult. A soap which in alcoholic solution is quite neutral or even acid, and, therefore, can contain no free alkali or alkali carbonate, will react alkaline when dissolved in water. This alkalinity is greater when the fatty acids are of high molecular weight than when the molecular equivalent has a lower value. After trials with various fatty materials, the author finally selects cocoanut oil, *i. e.*, the fat from the kernels of *Cocos nucifera* and *C. butyracea* as being the most suitable, because it has a very high saponification value; in other words, the average molecular weight of its fatty acids is low. By preparing a cocoanut oil soap highly superfatted, he has succeeded in reducing the alkaline reaction of the aqueous solution almost to the vanishing point, and for the same reason the irritant action upon the eye to a minimum. His process is as follows: 60 grms. cocoanut fat are mixed with 36.7 grms. of 50 per cent. caustic potash (specific gravity 1.539), and let stand 24 hours; it is then warmed until completely soluble in water. To the warm mass 70 grms. of glycerin are added, the heating being continued until homogeneity is attained; 60 grms. of the free fatty acids from cocoanut fat are then stirred in and the whole warmed until one-half grm. of the mixture, dissolved in 20 cc. water (the resulting solution is not clear) no longer gives an alkaline reaction with phenolphthalein at 15°C. This soap, which being very hygroscopic, should be kept in closed vessels, exhibits no alka-

linity even in a 2 per cent. aqueous solution, although on further dilution a light violet color with phenolphthalein appears. When introduced into the eye a momentary smarting only is occasioned. Either alone or when incorporated with medicaments it will doubtless also prove of value in dermatological practice; being, however, especially designed for ophthalmic use, the author terms the preparation Sapo ophthalmicus neutralis, or shortly "Sapophthalum." His recipe for an eye water is:

"Sapophthali"	12.5 grms.
Solve in	
Aquæ	87.5 grms.
Aq. ros.	300.0 grms.
Alcoh. dil.	100.0 grms.

From Stork to Undertaker.

The stork disappears, and we look into the cradle and behold a male child. After running the gauntlet of measles, mumps, and chicken pox he enters school. At the age of ten he is a red-headed, freckle-faced boy, and the terror of the neighborhood. At twelve he is an apprentice in a printing office. At eighteen he has acquired two cases of long primer and an army press, and is the editor of a country newspaper. At twenty he is married. At thirty he is bald-headed, stoop-shouldered and the father of a large family. At thirty-five he is a corpse in a cheap pine coffin, and has 500 delinquent subscribers file past his bier for the last look, they are heard to say: "He was a good fellow, but he couldn't save his money."—Lockwood (Mo.) Times.

Rules For Preparing Boiler For Inspection.

Haul fires and all ashes from furnace and ash-pits.

If time will permit, allow boiler and settings to cool gradually until there is no steam pressure, then allow water to run out of boilers. It is best that steam pressure should not exceed ten pounds if used to blow water out.

Inside of boiler should be washed through man-holes and hand-holes by hose service and dried with wiping.

Keep safety valve and gauge-cocks open.

Take off man-hole and hand-hole plates as soon as possible after steam is out of boiler, so that the boiler may cool sufficiently for examination; also keep all doors shut about boilers and settings, except the furnace and ash-pit doors. Keep dampers open in pipes and chimneys.

Have all ashes removed from under boilers and have fire surfaces and heads swept clean.

Have spare packing ready for use on man-hole and hand-hole plates if the old packing is made useless in taking off or is burned. The boiler attendant must take off and replace these plates.

Keep all the windows and doors to boiler room open after the fires are hauled so that boilers and settings may cool as quickly as possible.

The inside and outside of the boiler should be allowed to cool at the same time, thus equalizing the process of contraction.—Practical Engineer.

Sensation of Inodorousness.

Absolutely inodorous surroundings are in Zwaardemaker's opinion, like an absolutely dark and noiseless space, of rare occurrence, as almost every substance possesses its specific odor. The fact that we do not usually perceive it, depends apart from our carelessness, upon the ventilation which enfeebles the odor, and, perhaps more correctly, produces transitions. If, therefore, we desire to become acquainted with the sensation of inodorousness we have generally to resort to an intentionally produced state of inodorousness. The most suitable arrangement for this purpose is a glass case of 40 cc. capacity with an opening for the nose. If this case is carefully freed from adhering odors, the air contained in it will be found nearly odorless.

A different kind of inodorousness which is more often realized, consists of the composition of odors which supplant each other. A complete compensation, however, occurs only in the case of very faint odors, while powerful excitants enter into a contest with one another. A difference between the sensation of this apparent inodorousness and the actual one does not exist. Zwaardemaker also considers a third kind of inodorousness possible. Concentrated solutions of many odorous substances, as compared with dilute ones, have a remarkably faint odor. On repeated observation it becomes more and more faint, and finally disappears almost completely. It is not improbable that this kind of inodorousness also occurs in nature. In the summer, for instance, the terpene odor of a fir-wood is not so striking in the wood itself as when such a wood is passed on an open road and the wind wafts the odor toward one.

So far we have only discussed the question of inodorousness in spaces, or of the air in the open. There is, however, also a condition of inodorousness of bodies. A body is usually understood to be inodorous, if no molecules at all, or only an infinitesimal number, become detached from the body of evaporation. A glass or platinum vessel is for this reason practically odorless. H. Erdmann, however, had come to a different conclusion on the strength of his observations respecting the behavior of odorous substances toward liquid air. Hanny and Horgarths have demonstrated that the capability of dissolving, which liquids possess toward non-volatile bodies, or toward such which only volatilize with diffi-

culty, is also found in gases. Starting from this idea, Erdmann examined liquid air as a solvent, and found that three well-known odorous substances, citral, rose oil, and ionone, show a remarkably strong solubility in liquid air, a characteristic property of odorous substances.

Up to the present it has been accepted that the molecules which volatilize or dissolve in the air, belong to the bodies which chiefly build up the respective substances. In many cases occurring in nature this is not so; for example, in the case of a resin or a wax, in which the odorous particles only represent a small portion. From Erdmann's point of view the separation of odorous molecules is there simply a transition from one solvent into another (Schimmel's Report).

Soap Tree of Algeria.

(From United States Consul Kidder, Algiers, Algeria.)

The Sapindus utilis is not, as is generally supposed, indigenous in Algeria. It was introduced into the colony in 1845 under the name of Sapindus indicus, and in 1859 a number of young plants in Algeria were already offered for sale. In 1869 the catalogue of the Jardin d'Essai of Algiers gives the name of another species as Sapindus emarginatus, believed to be a native of Central America. Both these names were erroneous. The soap tree in Algeria differs widely from both of these species. It appears to be a hybrid, and has characteristics quite different from those of any of the known varieties coming from India, Japan, China, and Central America, and it is superior to all in general usefulness. For this reason Doctor Trabut, director of the botanical services of the general government of Algeria, suggested the name of Sapindus utilis, which has been generally adopted.

The Sapindus utilis is a large tree with a smooth, straight trunk. The plants reach to about 10 feet in height in the first two years, and begin to bear in six years, but the fruit production increases largely as the tree becomes older. The flowers are male and female or hermaphrodite. The berry is round in appearance, but with a distinct keel like that of a walnut encircling it. It is, when fresh, smooth, shiny and fleshy. When dried it is tough, gummy and translucid; the color varies from yellowish green to brown. In size it varies from about half an inch to an inch in diameter. Dried, it weighs from one-eighth to one-quarter of an ounce. The seeds form about a third of the total weight. The tree when fully grown is from 40 to 50 feet tall, and produces 200 pounds of fruit annually.

Several varieties produced from seed have given poor results. The only practical method of reproduction is from cuttings. These cuttings should be planted in February in Algeria and countries with similiar climate. They must be copiously watered during the summer.

So far the cultivation of this tree in Algeria has been confined to the low-lying lands near the coast (the orange belt), but it is believed that it would endure a more severe climate. The only large plantation of these trees is that of M. Bertrand at his property of Boukandoura, about 18 miles from Algiers, covering some 150 acres; but there are many small plantations, and recently the cultivation of the tree is being largely undertaken.

There are no important manufactures of soap-tree products in Algeria. The entire product of the plantation referred to above went last year to Germany. A good deal of the fruit is employed in its natural state, and many chemists produce specialties from it, such as "saponine," an excellent washing powder, "sapindine," a reputed hair wash, and many other articles for toilet purposes. Panama wood, which is extensively used in Europe for washing, contains on an average about 8 per cent. of saponine, while the dried fruit of the soap tree contains fully 28 per cent. When freight is taken into consideration, the difference can be easily estimated.

The wood of the soap tree is also valuable. It is fine grained, takes a good polish, and is very suitable for furniture. The seed contains a considerable quantity of fine oil. It seems that the cultivation of this tree might be remunerative in California and in our Southern States.

Bribery of Employes.

(*Continued.*)

UNDERHAND COMPETITION.

(By Dr. E. Chambon.)

About three years ago there appeared in the Frankfort magazine Das freie Wort, a very interesting article, It treated on the probable causes of the business depression existing at that time, and gave as one of the causes of whose existence in larger circles nothing was known, but by interested parties a great deal, the underhand machinations in connection with buying and selling, or, to call it by its right name, bribery in many forms practiced by salesmen in order to displace or exclude competition, and which the person negotiating the purchase accepts. It is immaterial whether the conditions alluded to are one of the causes, or whether the result of industrial depression. The item attracted attention, and after some time there appeared in the same magazine a second article which, without further digression, spoke of the "systematic corruption practiced by employes in many branches for the purpose of obtaining orders. The Berlin Abendpost, of Sept. 27, 1902, and the Elberfeld Zeitung, of Sept. 30, 1902, reproduced this article under the well chosen headings "A Cancer," and "Hand Salves," and of late the Leipzig Farberzeitung has taken

up the matter, which, for the purpose of further characterizing the shameless proceeding, quoted an advertisement which unmistakably and openly was addressed to approachable "employes of industrial establishments," promising them considerable extra profit.

Those who know the conditions here complained of are only too intimately acquainted with this evil, and the fearful proportions it has already attained, and the time seems to have come when something must be done, and be done quickly.

Let us try, as a beginning, to trace the inception and course of this disagreeable phenomenon.

As long as the manufacturer himself, or the responsible manager of an industrial establishment does the purchasing or controls it, such bribery is without purpose and impossible, as in the nature of the case it is always and under all circumstances to the detriment of the business, *i. e.*, the owner, whether he be a single individual or a corporation. Such a thorough and, we might say, personal control of the purchasing department is in most cases not possible—or it is believed at least that it is not possible, to which we will revert later on. The manager's time is otherwise occupied, his knowledge of the goods is insufficient, his interests take another direction, in short, there may be many reasons why he delegates the purchasing of supplies to another person, or allows himself to be influenced by the apparently experienced and impartial advice of such a person when making purchases. Here now the underhand and sordid competition tries to enter in all possible forms, and that too often with greatest success. Between the seller and the purchaser a third individual is introduced, to whom, under all circumstances, his own profit stands higher than that of the business, and who in the securing of such profit at last forgets everything—duty, self-respect, honor. In the beginning this middleman accepts the skillfully offered bribes very reluctantly; soon, however, the trade assumes regular proportions, and, regardless of the business interests, he puts his influence entirely at the disposal of the bribing person. The natural consequence is that the contractor, who now has the purchasing agent completely in his hands, has eliminated all competition, and can furnish his supplies as suits him best, or, in other words, as much below the quality desired as he dares without courting immediate detection. The forms of this influence and bribery are remarkably manifold, and a skillful representative or agent has soon gained sufficient knowledge of individuals to know with certainty how to act toward the persons whose influence he must have. From the offered cigar and the breakfast with wine to the direct payment in cash, from the Christmas present and the fulfilling of "quite accidentally" expressed wishes to intentional losses in card games or in proposed bets—everything has been done. As Kohler says: "A Proteus who assumes a thousand forms, but avoids those legally prohibited."

The injury done is in several respects considerable, so great in fact that the decent interested factors variously occupied in industry and commerce must be sternly resolved to destroy this ever increasing evil, root and branch, which works to such disadvantage to single individuals, and undermines the reputation and respect of entire professions. The first and immediate injury is sustained by the purchaser or consumer, who through the purchases thus influenced suffers a loss exactly calculable in money, since it is clear that not only the costs of the bribery are borne by him, and not by the contractor, but also that he only receives such supplies as the contractor is willing to give, and not such quality of goods as he demands as purchaser and which are profitable to him. When R. Stephan* for the purpose of proving actual fraud, demands the citation of deceiving statements, the erroneous impression thereby produced, and the consequent spoilation of the property of a certain person, so are all these premises in the actions of bribery fulfilled, the primary connection between imposition and injury is given; the owner of the business as consumer is given to understand by his purchasing agent that he receives full value in the quality of the goods, by this he is erroneously impressed that the purchase is a profitable one, and as a further consequence follows the loss entailed through the unprofitable purchase of lower grade goods. Another indirect injury he suffers in that the bribed purchasing agent or employe consulted as to his practical judgment must see to it that any competition is excluded, through which the business loses the knowledge of the goods in the market and the profitable utilization of progressive ideas. The second considerable injury is a perceptible repression in industry and commerce, and the undermining of good faith in business relations. What are decent firms compelled to do who peremptorily dismiss such unclean machinations, or let us state it openly, fraudulent actions, and who demand from their representatives as a duty an absolutely straight and loyal conduct? They know quite well that they will have no business relations with a number of consumers, if they do not walk devious ways, like their competitors. However, the business man cannot and must not arbitrarily withdraw from the pursuit of his vocation and the expansion of his business; he must seek to enlarge the number of his consumers, open a market for new goods; his engineers and technical men must introduce new inventions, helping thereby simultaneously his own business, that of his business friend, and the industry of his country in general. What now shall he do when he finds himself thwarted everywhere when his correct and honorable exertions are checkmated and crossed by influences, the nature of

which he very well knows, but against which he is powerless to proceed? Shall he also steal silver spoons as others do? We promised not to. Shall he also lay more stress upon the "amiable" relations with this purchasing agent or that superintendent; shall he take notice of who among his customers likes wine, or desires a gold watch? How shall he act in this dilemma between honor and duty? Will not at last every man consider the other a scoundrel, because he is either one himself, or must consider the other such until he has proof to the contrary. To what conditions in all walks of life this must eventually lead—and partly has already led—everybody whom it concerns may answer for himself! The third—last but not least—consequence of the herewith stated grievous moral affliction is the far-reaching civil injury of many honorable pursuits, *i. e.*, of the mercantile and technical assistants, commercial employes, agents, etc. The decent and conscientious part among them suffers from the increasing disrespect gradually spreading from a part to the whole, from the single crooked individual to the entire profession. In the interest alone of these men who make their way through life by honorable activity, whose dutiful co-operation is absolutely essential to the prosperity of industry and commerce, and for the advancement of the nation's well being—in the interests of this great number of men alone, I say, it is due that quick and perfect remedies should be demanded.

Heretofore we have concerned ourselves mainly with the persons bribed, and the injury wrought by them; our argument, however, would lack its better half if we did not also consider more closely those persons who are the real active cause, in that they originate the bribery in one way or another, leading thereby first to illegal compliance, later on to open fraud. It is the directors and managers of large and small firms themselves who directly or indirectly give confidential instructions to their representatives to act as they see fit, or through secret funds, the use of which is left to their agents' discretion without an accounting being demanded, or through invitations, favors or presents, address themselves to the persons interested for the purpose of being sure of getting their support at the proper place? Or have they no knowledge of this, and is it the representative, the traveling salesman, who takes it upon himself to overreach his rights,, of course, with the best of intentions, and only from a false sense of business ardor—and must then be disavowed—however, only in case it becomes public, otherwise not? To all whom it may concern: We should like to know those business managers or business directors who could not, through energetic steps taken with true intentions, immediately abolish the evil, root and branch. Woe be to the employe or official or whatever station he may be, who takes the liberty, without being sure of his firm's approbation in one way or another, to trespass the limits of commercial decency and honorableness. The bribing person who misleads others to disregard their plain duty and to commit fraud is the greater and more criminal offender. From a moral point of view is may be the same whether one steals or induces another to steal, but considered from a humanitarian point of view we can, under certain conditions, if not entirely excuse, then at least find an explanation of the action of the former—thoughtlessness, need, lack of character, inexperience, and what else may have entered into the case; but for the bribing person, who, from selfishness and greed, defrauds and morally ruins others, there are not even mitigating circumstances! Don't come to us with the excuse of customary business practices, with the habitual meeting of parties half way—greasing and bribing sail under all possible colors! Very useful and commendable indeed is the cultivation of friendly relations between business friends, but these relations should only be upheld with strictest loyal regard to the mutual business interests. Here, however, we speak about quite a different thing, which has not the least connection with conservative and honorable business relations, neither will it ever exist between respectable people.

This evil, this corruption, in industry and commerce, has grown, indeed, and has attained greater proportions than the uninitiated imagine; it has shaken and undermined the ideas of morality, duty, honorableness and has already wrought great harm, which will be incalculable if an effort is not made soon to stop it. The extent of the mischief and the danger of the threatening injury is very difficult rightly to estimate in figures or establish by facts. This is in the nature of the case. It is to the greatest interests of these disreputable elements to withdraw their corrupting methods as far as possible from the public gaze, and the individual injured often rather prefers to settle the affair quietly. Others again remain silent, as up to the present time there is no legal aid to energetically combat this form of improper competition. The better informed circles consider the extension and power of the parties interested so great that the single individual, and be it the largest and most influential firm, is powerless against it. Of late these unbearable conditions have come into further prominence through a most remarkable and unprecedented incident, which, as a symptom, can hardly be overestimated. The Manufacturers' Association of Forst, I. L., being convinced of the absolute necessity of a positive remedy, and perceiving rightly that only united action has any possibility of success, has resolved to protect itself in that it compels the firms selling to its members to obligate themselves in writing not to give presents or considerations of any kind to the purchasing employes of its firms.

Their circular letter reads: "We have proofs that immense sums are secretly paid to employes, through which practice our industry is greatly injured. It is clear that contractors calculate the moneys paid for bribes, after these amount to a considerable sum, as a part of their expenses, and that we, the purchasers, have to pay more for our goods." The Industrial Society in Werdau, I. S., have resolved upon a similar course after the bribing of employes came accidentally to light in a lawsuit in Zwickau.* Also the Aachen Manufacturers' Association has taken a decided stand in this question.

All interested parties are now of the opinion that it cannot continue any longer in this way. It will not improve itself; it becomes worse. What, then, is to be done?

About the course to be pursued there can be no doubt. It consists in self-redress and redress by the government. The first at least should not be left untried, although, according to the experience already gained we cannot promise ourselves much success from the same; the other is absolutely necessary and cannot be denied by the legislature. Both together, the former more than the latter will not momentarily suppress the evil, but limiting it in the beginning, it will at last reduce it to that minimum state in which, like the lower instincts in man, here as well as elsewhere, it still continues secretly.

One means of self-help is the organization of societies which mutually declare themselves, and demand binding promises in writing from their contractors under threat of suitable united action against them. This has been already pointed out in Das freie Wort (Frankfurt, Sept. 20, 1902), and the Manufacturers' Association of Forst has made a beginning which cannot be too often recommended as an example to be followed.

The consideration of a further means, which lies altogether in the hands of the consumer, we here prologue with the good old proverb: "The eye of the Lord fattens the cattle." It is said, in many cases the manager—taken in the broadest sense of the term, it need not just be the owner of the business or a director—cannot himself watch over the purchases or contract them. Why should not this be possible? The proof to the contrary has been furnished. With a number of quite large and even very large firms it is simply impossible to negotiate a sale except on the most equitable basis. No subordinate or secondary employe may have his say, or is asked for his opinion. Only technically schooled and more responsible employes, superintendents of departments, if not the technical chief himself, may examine and conclude contracts. Bribery is then altogether impossible. Those managers who have as yet no thorough knowledge of their branch must acquire it; in their own interest they must gain the necessary technical knowledge in order to be able to judge for themselves, and not be dependent upon doubtful and uncertain elements. What becomes of the business man who cannot for himself form an opinion, but always needs others who must tell him what to do? We know merchants who have become experts in technical questions, whom no technically educated man could mislead about the use of a material or methods to be adopted in manufacturing. Here much can be done. Of course, it is much more convenient not to exert one's self, and let others think for one. Do take pains. If you absolutely need other persons, follow them up continually, and become expert, so that you are able at all times to control your employes. Trust no one in your business but yourself—nowhere is the indolent dependence upon others more out of place than here—always form your own judgment! All things are possible to him who wills, always thinking of the proverb "The eye of the Lord fattens the cattle."

In all articles named in the beginning,, it is correctly pointed out that the so far existing laws are not sufficient, strongly and successfully to take hold of the dangerous nuisance. We join this movement most heartily; in the effort to urge the interested parties and more influential circles to energetic action in this direction lies the climax of our article.

The law first to be considered, the extension of which could be thought of as a beginning, is the one for the suppression of underhand competition, enacted May 27, 1896. For such a one and that one of the most dangerour kind, is the subject hereof. Stephan says: "Underhand competition is that solicitation undertaken for the business of another person, which disregards the principles of right and equity. However justified * * * may be the endeavor * * * to increase one's business through supplying of better goods and better work, as long as this is done with honest means, so condemnable appears such action when it is done at the expense of right and equity. For then arises a grave danger not to be underestimated not only for the single individuals injured, but also for the general public, and even the nation, which it is to the interest of everybody sternly to combat and if possible to suppress altogether."

The wording of the statute, however, offers hardly a really useful weapon. Possibly paragraphs 8 and 10, which deal with the betrayal of business secrets, respectively with the persuasion thereto, might be considered under certain conditions, as it was in the instanee published by the Elberfeld Zeitung, Sept. 30, 1902, in which the point in question was the ascertaining through bribery of the lowest bids submitted for certain contract work. However, in the large majority of cases nothing can be done with the existing statutes, and the necessity of new penal laws, which will apply directly to bribing

in every form, is obvious. It is said of the German that as soon as he is uncomfortable, he calls for the police and the state; in this case it is not the Germans, but the Englishmen and the Americans, with whom generally one presupposes some understanding for practical necessities. For we must not be under the impression that this corruption flourishes only in Germany; every commercial and industrial country has its full measure. Before the British Parliament there is a bill, edited by prominent jurists, entitled: "Statute for the Better Prevention of Bribery"; and also in Rhode Island, one of the American States, a similar law has been proposed—whereas in Massachusetts—a state with highly developed industries—such a law has already been adopted. The necessity for such legal action is apparently quite urgent in England and in the United States; everywhere this cancerous evil has become unbearable, and no form of self-protection has been found an efficient remedy. Discite moniti!

The subject-matter of the three statutes, of which the English and the American appeared word for word in the last number of the Farberzeitung, agree in the main points. Special attention is called to one paragraph in the English bill:

"By a criminal procedure under this statute the proof shall not be admitted that a present or a consideration, as mentioned in this paragraph, is customary in a trade or occupation."

We notice with pleasure the rigorous manner in which th eEnglish and Ameriean jurists deal with this unclean class of people; with a similar law also the German commercial world could be quite satisfied.

During the month of July of this year the Palatine Chamber of Commerce submitted a memorial to the Bavarian Department of the Interior in which, after an exhaustive explanation of the situation, it recommended as the only means for the successful suppression of the evil, the adoption of legal measures, according to which all bribery in the commercial world is made liable to criminal procedure. It has been intimated that an effort is being made to induce other chambers of commerce to take part in this movement. This is at last an energetic step to remedy the evil, which we hope, in the interest of German industry and commerce, will prove completely and immediately successful. May our merchants and manufacturers consider their interests and take an active part in the framing of necessary statutes, and may our jurists lend their assistance in this cause. Once before, when underhand competition had to be fought, industry and commerce received the valuable assistance of an eminent jurist, Mr. J. Kohler, of Berlin, who proved to be a very enlightened and successful champion of their cause. Again the German business world stands in need of a Kohler!

Cocoanut Oil To Make Gas.

The Bureau of Government Laboratories of the Philippine Islands has just erected a new building, which will bring the scientific work of the Insular Government practically under one roof. Provision has been made for housing the branches of chemistry, bacteriology, pathology, botany, entomology, and for preparing prophylactic and curative serums. An ingenious method has been employed for securing an adequate gas supply. Oriental coals are deficient in gas-producing qualities, and importations from Europe or America would be entirely too expensive for the purpose: and even gasoline, as is sometimes used for the purpose, was found to be unsatisfactory. The Bureau therefore adopted the plan of preparing gas from cocoanut oil, a native product. Strong cast-iron retorts are brought to a red heat in furnaces, and the cocoanut oil is then slowly fed into them, thus producing a very high quality of illuminating gas, free from smoke and tar."—British Trade Journal.

It Pays To Advertise.

A lady who dined at a hotel found, on reaching home, that her gold bag containing jewelry was missing. Supposing she had lost it at the hotel, she returned there and instituted a fruitless search. She then inserted advertisements in the "Lost" columns of several newspapers. When she regained her abode, the bag had already appeared. It had been there all the time where she had dropped it.

Natural Remedies.

Feeling bad?
Just sing;
Soon be glad.
(Sure thing!)

Feeling mad?
Here's a cure.
Smile, my lad,
(Quick! Sure!)

Worrying?
Breathe Deep.
(Just the thing—
Safe. Cheap.)

Cash all gone?
Don't groan;
Work, my son,
(Best Known.)

Deep in love?
Here's a cure:
Wed the dove.
(Great. Sure.)

PATENTS AND TRADE-MARKS.

The following list of recent Patents and Trade-Marks is reported by W. G. HENDERSON, Solicitor of American and Foreign Patents and Trade-Marks, Norris Bldg,, Washington, D. C. A copy of any of the following will be furnished by him for 15 cents.

PATENTS.

779,301. Mill for Grinding Soap. Charles E. Drake, Webster, Mass., assignor to Houehin & Huber, Brooklyn, N. Y.

LABELS.

11,722. Title: "Familien-Toilette-Seife." (For Toilet Soap.) Gustav Lohse, Berlin, Germany.

11,723. Title: "Lilienmilch-Seife." (For Soap.) Gustav Lohse, Berlin, Germany.

11,740. Title: "American Beauties." (For Soap.) The Liberty Soap Co., Chicago, Ill.

11,777. Title: "Curatum." (For Soap.) Charles W. Shaw, Baltimore, Md.

11,778. Title: "Ulika." (For Soap.) C. L. Campbell, Southington, Conn.

AROUND THE SOAP FACTORIES.

News-items sent us by our readers will find prompt attention in this column

Incorporated in Ohio: The Thomas Ross and Brothers' Soap Company, Columbus, capital $21,000, by Christopher Ross, James Ross, George Ross, Mary J. Ross and Oliver E. Davis.

E. S. Miller, manufacturer of Goodhair Soap, has had printed several thousand calendars that are attracting much favorable comment. The illustration represents a hunting scene. The familiar figure of a young man scratching his head is nailed to one of the trees in the picture, but in the foreground is a fallen log, at one end of which is an anxious dog and at the other a lad holding a sack. The log is labelled "Keeps the Hare From Coming Out."

Columbia, S. C., Jan 6.—B. F. Taylor, Thomas Taylor, Jr., and B. W. Taylor, have received a commission from the secretary of state as incorporators of the Taylor Manufacturing Company, which has already erected a plant for the cotton seed soap business. The capital stock is $100,000.

Goshen, Ind., Jan. 12.—The Cosmo-Buttermilk soap works, of this city, has been transferred by the Burns interests, headed by J. J. Burns, the traction promotor, to the Pennsylvania Soap Company, of Lancaster, Pa., a company organized by C. F. Miller, of Lancaster, Pa., with a capitalization of $1,250,000.

The Goshen plant will be the largest of the three plants owned by the company, one of which is at Buffalo, and the other at Lancaster. The estimated output of the plant here will be 400 carloads a year, and $200,000 is the purchase price. The bill of sale includes in its inventory all trade-marks and formulas.

J. J. Burns was an Elkhart county farmer boy, of Middlebury township. Once he secured the formula for making Cosmo-Buttermilk soap, and started out in a small way to do business at Valparaiso, Ind. While he looked after the business carefully the output grew rapidly. But Mr. Burns had a "side line" in the nature of railroad building. He constructed a steam railway from Goshen to Battle Creek, Mich., but it did not prove a remunerative speculation.

The Pennsylvania Soap company acquires the Cosmo works as its western branch. At least $800,000 will be spent in the works here and the output will not be less than 400 car loads of soap per year. The Pennsylvania company is one of the biggest in the United States, was founded by Charles F. Miller, now a millionaire, and this year will spend $225,000 in advertising. The acquisition of the Cosmo plant by the immense concern means it will be run to its full capacity every day in the year and that many families will be brought to Goshen.

James Good, of Philadelphia, in connection with his whale oil and disinfecting soaps, is publishing a "Pocket Manual of Plant Diseases," for the use of florists, gardeners and others.

Incorporated: Standard Soap Co., New York; soaps and perfumery; capital, $12,000. Incorporators and directors for first year, H. W. Beecher, T. McCarty, New York; L. R. Perrand, Woodcliff, N. J.

The Fox River Soap Co., of Green Bay, Wis., started operations in their new factory on Jan. 3.

The United States Extracting & Refining Company, of Brooklyn, N. Y., has been incorporated with $250,000 capital. The directors are John T. Morse, Robert C. Kelsey, New York; Daniel E. Foley, T. E. Fitzgerald and J. L. Mackle, Jr., of Brooklyn. The company is to extract grease and by-products from wool and other sources, etc.

Wheeler Brothers Company, of Boston, Mass., has been formed to manufacture soap, with $50,000 capital. The president is Harvey C. Wheeler.

C. T. Perry's soap and candle factory at Helena, Mont., was the scene of a disastrous fire on January 6. The building, machinery and products in process of manufacture were practically destroyed. A good supply of raw materials and finished products, kept in separate buildings, were saved.

As to rebuilding the factory, Mr. Perry said he had not made up his mind. "I have not gone far enough

into the matter to know whether I will rebuild," he said. "I notice by the Record we are going to rebuild. I have not seen a reporter for that paper, and do not know what his plans are."

The Perry soap factory was not only the pioneer in its line in the state, but since its establishment in 1888 four other soap factories have been started, and it is the only one in existence in Montana to-day.

The Lehmann Soap Co. has been incorporated at Parkersburg, W. Va., with a capital stock of $15,000, by A. H. Clark and Dr. J. S. Chening, Pine Grove, Ohio; R. H. Stewart, Munday, Ohio; A. L. Rettger and Luke Lehmann, Logan, Ohio; and E. H. Gabriels and H. C. Gabriels, Parkersburg.

It had been intended by the company to lease the Upson building for its manufacturing purposes, but instead it has now been decided to buy a certain three-story brick building now being used as a hotel, and remodel it for the purpose.

Peddicord & Hess, having discontinued the manufacture of soap at Washington C. H., Ohio, when their plant became the property of the Proctor & Gamble Co., are now giving all their attention to the coal business.

The American Witch Hazel Company, with offices at 220 Broadway, and a drug store at 240 Broadway, near Park Place, which was organized in February, 1903, with capital stock of $1,000,000 is in financial difficulties. Deputy Sheriff Murray last week put a keeper in the store on two executions, aggregating $205. Later the same day Lesser Bros. filed a petition in bankruptcy against the company for the following creditors: Eugene W. Dunstan, $10; Schieffelin & Co., $676, and Orlando H. Jadwin, $241, all for drugs sold to the company. It was alleged that the company is insolvent, suffered the Whiting Paper Company to obtain preference by judgment, paid $1,000 to former officers of the company and paid $100 to F. Huhn. Judge Holt of the U. S. District Court appointed Ferdinand A. Hoyt, Jr., receiver of the assets.

The Beaumont Soap Company, of Mayfield, Ky., has increased its capital from $50,000 to $130,000.

The Lange Soap Company, of San Antonio, Tex., has been incorporated with $40,000 capital by Frank Lange, B. J. Lange, L. E. Goldsmith, S. F. Jacobi and A. Piper.

Incorporated: Thayer & Co., of Chicago, Ill., with $100,000 capital has been chartered to deal in and manufacture soaps, by Lewis W. Parker, Henry M. Hagan, and Charles W. Keeper.

Additions to Our Brand List.

Big Cape, Cape City S. Works., Cape Girardeau, Mo.
Dolly Varden — A. W. Wilwid & Co., Newark, N. J.
Fawn—Cumberland (Md. Soap Co.
Lustro—F. L. Hunt, Cincinnati, Ohio.
Merry War, Cape City S. Wks., Cape Girardeau, Mo.
Oleo—Germ. Amer. Soap Wks., New Orleans.
Power Soap — F. Martin, Columbus, Ohio.
Radium—Natl. S. Corporation, Boston.
Strajuso—Frazer Soap Co., Chicago, Ill.
Strawberry Juice Transparent Glycerine S. No. 202 — Frazer Soap Co., Chicago, Ill.
Volcano—F. L. Hunt, Cincinnati, Ohio.

Angelo Olive 54
Aroma de Clavel 54
Boro Myrr 54
Clavel 54
Cu-Te-Na 351
Four Leaf Clover 54
Gasene 106
Glyco Tar 54
Golden Dragon 54
Gold Medal 106
Individual Toilet 54
It 4
Keno 106
Koko-Oil 54
Kold-Wata 54
La Batea 2
La Fiesta 54
Magno 106
Osmosis Soap 4
Prairie 72
Prismal 106
Radio 106
Savon Fleur de Lis 54
Spick and Span 106
Stellar 106
Trix 54
Veg-Oil 113
Veget-ore 4

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SUPPLEMENTARY LIST
OF THE
BRANDS OF SOAP MANUFACTURED IN THE UNITED STATES
Including also the Brands of Foreign Manufacture Registered as Trade-Marks in this Country.

NOTE: This list is compiled with the greatest possible care, but the publisher does not assume any responsibility other than to correct and to complete the list according to data obtained from official sources or furnished by the trade. Brands registered in the patent office as trade-marks or labels are given with the name of the party registering same. Brands or names marked * are those which were found to be used by more than one firm or the owner of which could not be ascertained. ☞ SEE THAT ALL YOUR BRANDS ARE ENTERED IN YOUR NAME.

3 Liberty Mfg. Co., Chicago.
113 Puck Manufacturing Co., Des Moines, Iowa.
344 Home Soap Co., N.Y.
345 Columbia Ref'g. & M'f'g Co. Ltd , New Orleans.
346 Beaumont Soap Co., Mayfield, Ky
347 Lockwood Soap Co., Kansas City, Mo.
348 Oklahoma Soap & Oil Co., Oklahoma City.
349 M. F. Windsor Soap Co , East Buffalo, N. Y.
350 Florida Cotton Oil Co., Jacksonville, Fla.
351 Brown Soap Co., Dayton, Ohio.
353 Southern Soap Co., Birmingham, Ala.
354 Zion City Soap Factory, Zion City, Ill.
355 Palami Co., Boston, Mass.

Abrado, Floridine Mfg. Co., New York.
A Happy Home 4
Alabama Tar 3
All-need it 286
Allpine Tar 337
Amazon Coco 337
Amber Rose 346
Ammonaptha 347
Anchor Castile 3
Angelus 54
Antelope 3
Antillia 2
Antler 337
Anty Up 340
Apple Blossom 337
Aquidneck: F. P. Garrettson & Co., New York City.
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Baby Mine 8
Bannock 3
Banty 32
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Blue Coco 340
Blue Family 340
Blue Monday 340
Blue Olive 340
Boast 3
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Breath of Roses 337
Breath of Violets 337
Brightshine 106
Bunny—Hewitt Bros. Soap Co. Dayton, Ohio.
Buster Brown 351

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Calnmet 3
Camille 3
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Cascade 16
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Ceske Polski 3
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Cloths Pin 340
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Coaster 32
Coca Foam 3
Colombo 351
Columbia 3
Conto & Elroy Castile 3
Cream Naptha 343
Credential Shaving Stick 16
Cricket Soap Powder; Davis & Marston, New York City.
Crown Princess 337
Crystal Honey 346
Crystal Snlphnr 3
Crystal Palace 3
Crystal Transparent Tar 3
" " Carbolic 3
Cuban Rose 3
Cuta Alba 3
Caltoderma Medicated 3
Cycle 3

Dactylis 11
Der-Foda 3
Dermicura 327
Diadem 3
Dollie (Filtered) Blue 352
Druggist's Transparent 3
Dr. Allens Medicated 3
Durango Best, Durango (Colo.) Soap Co.
Dylissia—Vin lia Co., Ltd., London, England.

Ebony 351
Egg Tar; Lee Specialty Co., Detroit, Mich.
Eiderdown 337
Elk's Bouquet 346
Empress Eugenie 115
Empire Geranium 337
Eucryl Eneryl Ltd., Hull, England.
Eureka 3
Evergreen 286
Expert 286

Facine 340
Fairbank's Primrose 2
" Seouring 2
" German Fam. 2
" Glyeerine-Tar 2
" Mottled Germ'n
" Olive 2
" Navy Blue 2
Fantasy 11
Federal Family 1
Feltine 352
Flaco 350
Flannel 2
Flip 345
Floral Feast 115
Floss 113
Force, Cincinnati Soap Co., Cincinnati, Ohio.
Fragrant Honey 2
French Violette 3
Frog 340
Full Hand 353
Fuzz 113

Gasene 106
Gasoline Laundry Soap 120
Gem Wash, Compound, Clara Pearce, Phi adelphia.
Georgia Oleine 29
Geronne Violette 3
Geyser 343
Giant 3
Gloriola 29
Glycerated Tar 346
Glycerderma 3
Golden Rose 3
Gold Seal Soap Flour 340
Gondola 38
Goodhair, Goodhair Remedy Co., Newark, Ohio.
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Grand Duke Washing P. 353
Grandma's Ammoniated Powdered Soap 38
Grandma's Borated Powdered Soap 38
Grandma's Borax Powdered Soap 38
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Green Palm 340
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Hasn't Scratched Yet; Bon Ami Co., New York City.
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Helix 54
"High 5" 113
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Home Castile 3
Home Pride 347
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Hots Springs Bath 3
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Kaska Bouquet 346
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Kimola, Bell Mg. Co., St. Louis, Mo.
King Solomon's Rock Oil S. Mnross Jenkins, N. Y.
Kitcholine 113
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La Virtho, John S. Nichols, New York.
Le Fameux 16
Le Fameux Rose de Seville 16
Le Fameux Violette de Sevill 16
Le Fameux Peau d'Espagne 16
Le Fameux Jockey Club 16
Lemola Toilet, Lemola Soap Co., Los Angeles, Cal.
Lemolive 54
Lemonine, E. H. Kraut, Cincinnati.
Letter Box 38
Lettuce Cream 3
Libertys London Transparent 3
Liberty's Quartette 3
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kina Skin 346
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Naphtha Toilet 340
Naphthal 340
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Naptholive 340
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Naptha Washing Powder—Hunt Mfg. Co., Cincinnati, Ohio.
Natnral Gas 340
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The American Soap Journal & Manufacturing Chemist.

A MONTHLY JOURNAL OF THE MANUFACTURING CHEMICAL INDUSTRIES.

DR. HENRY GATHMANN, Publisher.
2707 North Ave, Milwaukee.

MILWAUKEE, WIS., March 1, 1905.

VOL. XV. No. 67

THE AMERICAN SOAP JOURNAL AND MANUFACTURING CHEMIST.

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2707 NORTH AVENUE, MILWAUKEE, WIS., U. S. A.

The AMERICAN SOAP JOURNAL AND MANUFACTURING CHEMIST is devoted to the interests of all manufacturing industries of a chemical character, and is an absolutely independent publication. It is the only newspaper of its kind in America and has also a large foreign circulation.

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Communications on industrial subjects, news items, and any information suitable for printing in these columns, are solicited and will have due attention.

Readers in search of machinery, supplies etc., not advertised in these columns, are invited to write us and we shall endeavor to supply the information.

Address all communications to

DR. HENRY GATHMANN, Publisher,
2707 NORTH AVENUE,
MILWAUKEE, WIS., U. S. A.

We are anxious to enlist the good will of those of our friends who operate good-sized soap factories, in *an exceptional* cause, as explained in the following:

* * *

A request has come to us, from an absolutely trustworthy and influential establishment in Russia, for information which cannot possibly harm any one giving such information, but which may be the means of doing an incalculable amount of good, namely:

* * *

In the fewest possible words: Many manufacturing plants in Russia have become the scenes of strikes; the beginning of these strikes—so far as our newspaper reading informs us—was in St. Petersburg, where is located the largest soap factory in all Russia. This soap factory in St. Petersburg was—on account of its large number of employes—one of the very first of industrial establishments in Russia where labor troubles arose.

* * *

There are a number of other important soap factories in Russia (in Odessa and other large cities), and the owners of many of these are willing to afford their workmen the relief to which they are entitled, if they can ascertain what the usual conditions of employes of soap factories throughout the world really are.

* * *

With the above considerations in view, the establishment above referred to, addresses to us the following note of enquiry:

"If you possibly can procure the detailed answers from large American soap works to the following questions, it would very greatly oblige us:

"1. What is the working time per day and per week in American soap works? What are the working hours with continuous work, day and night? And, in the latter case, what is the division of the working forces?

"2. What are the minimum, and what are the average, wages for the workmen?

"3. Could you possibly procure for us a so-called 'Work Book' and the general rules for employes of American soap works?

"4. You can, of course, guarantee any firm giving you the answers, that their information will be quite confidential and be treated as such by us."

* * *

The object of this enquiry is a worthy and important one, and we trust that among those of our readers who

are in position to furnish the data required, there will be some who will volunteer to give the same to us for the purpose. If preferred, we are ready to give any such soap manufacturer the name of our correspondent, so the information desired may be sent directly, without passing through this office at all.

A reader of our paper writes: "Several months ago we allowed our subscription of the American Soap Journal to expire. But we find that we miss it so much that we enclose herewith $2.00 for 1905."

"On revient toujours a son premier amour!"

"I am well pleased with the number of letters I have had from the advertisement in your Journal, and will be much obliged if you will put it in each month till further notice."

The above is an exact quotation from a letter received by us on February 21st, and the original is to be seen at our office without a ticket of admission.

It has been justly said of a certain writer that "whatever good there is in his writings was known before he wrote it; and whatever of new thoughts are contained in his writings is mere foolishness."

The same remark applies to the writer of "Soapmaking Secrets," on another page of this paper.

The Soap Makers' and Helpers' Protective Union No. 10,724, A. F. of L., has issued an appeal to organized labor requesting that care should be taken that every piece of soap used should bear the union label. Secretary Schwartz says that if union men and women would demand union label soap from grocers, the larger soap factories would soon become union establishments.

The inspection of rosin at Savannah heretofore has been done by the rule that five per cent. of bottom heads of the grade K and above should be examined. This rule has now been extended to the lower grades also.

FROM OUR CORRESPONDENTS

SLIGHT CHANGE IN ADDRESS.

Chicago, February 1, 1905.

American Soap Journal:

Gentlemen: I am now returning to Europe and would ask you to hereafter address the Soap Journal to me at the factory, the Garnla Tvalfabriken at Malmoe.

Yours truly,

H. T. JONSSON.

BULK PERFUME TRADE.

Worcester, Mass., Feb. 2, 1905.

Editor The Pharmaceutical Era:

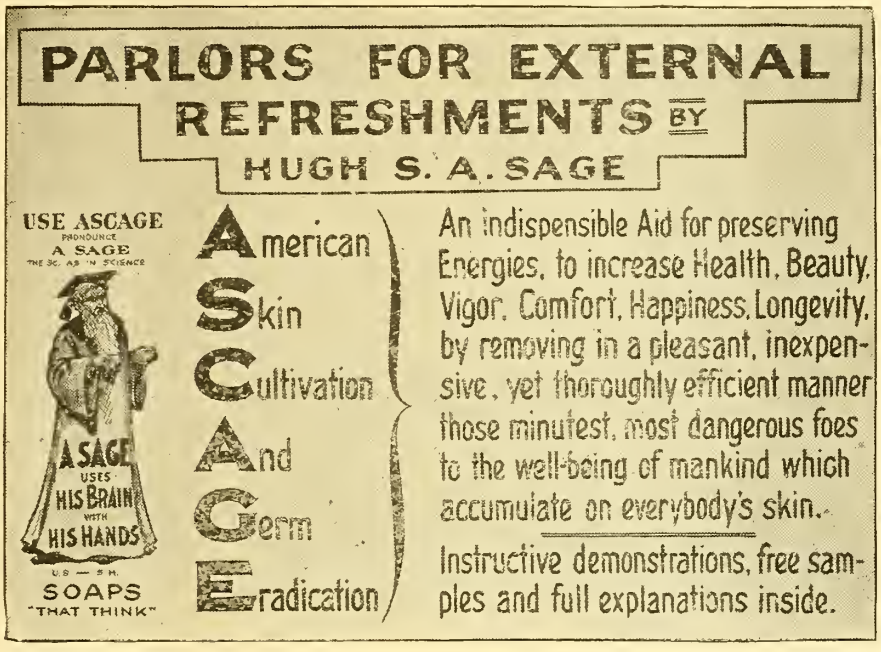
Regarding the article "Bulk Perfume Trade" which appeared in your issue of January 26, (page 121) we would like to take a few exceptions, as no doubt the most of the matter was gleaned from the American perfumers, for we know that more bulk perfume is sold today than ever and not by American perfumers, but by the French, for in one year the increase of duty on perfumery amounted to upwards of $119,000. This decidedly shows a marked preference for French perfumes, and that without one cent of advertising. Why is this? The reasons are many, among them being that French perfumes are allowed to age from one to two years before being bottled, which naturally makes the products superior, a fact the public appreciates. Another reason is that many druggists now make their own bulk perfumes by a simple process of "concentrated flower oils," which require but the addition of cologne spirit and water and ageing; the concern of whom we buy our oils told me that in 1904 they sold about 15,000 ounces of these oils, each ounce making one pint of extract. This represents a total of about 15,000 pints of bulk extract that the perfumer did not sell. These two facts alone taken together, show where the bulk perfume trade has gone to.

As to our American perfumer, he has not advanced in making perfumes; first, he allows his goods for the most part to age but from four to six weeks up to four months before shipping; result, product no good. Next, he pays most of his attention to "specials" at very high prices, because some of the perfumers think that the success of the French goods is because of the high prices asked, and also that the perfumer wants to have something bearing his own special name; it is a fact, however, that these specials are mostly old odors, dished up under names and new prices ranging from $9 up to $14 a pint and higher. The druggist has often in this way been duped, but he finally stops to think, and says, "If I must pay such prices, I'll buy the French goods, and then I will know that I have the best."

We admit that department stores now control the perfume business, and only because of their display and push. What the druggist must do is to meet their cut prices on the goods that perfumers sell both to himself and department stores, but his profits can be realized on the perfumes he makes himself under his own coined names. Druggists will remember that for years they sold all of the bulk perfumes for the perfumer without any advertising except the druggist's own recommendation, and for which he simply realized his legitimate profit. Why can he not today sell more of his own make than ever with a little attention and push? He shows, tries to sell, and does sell his own proprietary prepara-

tions, which proves what he can do if he tries. We feel that the perfume business belongs to the druggist, and that every honest effort must be made to retain it or regain it, as the case may be. Yours very truly,

HENRY L. GREEN.



A Unique Idea.

Above is a copy of a snapshot taken in a fashionable quarter of London near a park entrance. An enterprising American is "coining money" by promulgating and practicing the following, highly interesting and instructive ideas.

"Mankind is getting nervous and worn out by taking too many internal, and too few, or the wrong kind of external refreshments," explained Mr. Sage, when interviewed, "I provide, sell and demonstrate the use of, and have my assistants practice what you have read on the sign which attracted your attention. After a walk or ride through the park, most people feel tired and exhausted (which is neither more nor less than a sign that their skin is not able to expel all the waste matter resulting from mental or physical exertion,) they want a "change," some "refreshment" and because heretofore, they did not find the needed external refreshment convenient, ice cream parlors, restaurants, saloons, etc., were visited and instead of removing the cause of discomfort, they added thereto by taking internal stimulants which give the heart additional work rather than relieve it.

Mankind has felt (instinctively more than in any other way.) the truth of this statement. Turkish, Russian, Roman and similar baths are taken for the purpose of causing the skin to throw off effete matter, but compare even the appearance of some of these resorts with my establishments, with them secrecy, curtained windows and mystery, as to their methods, is the parole, with me it is enlightenment in every way; light, not only in my parlors but in the brains of my patrons and, through them, of the public at large, is my motto. We want every body to know all about our methods, we hide nothing, covering up nastiness is the cause of much mischief. Remove it, is my motto. The physician who cures, must not "mince matters" but must make people see nature as it is.

It may not please everybody to be told that the cleanliness they practice is far from thorough, neither would it do much good to say so; we prove it. We permit tired, worn out, respectable persons to come in and rest themselves and use our American Skin Cultivators and Germ Eradicators if they desire to wash themselves. While doing so, a ladies maid explains to females, and a valet to the men, why the old way of washing cannot reach, much less remove the accumulations gathering on everybody's skin. Our attendants assist our guests in the proper selection and use of just that quality of "skin sterilizers" which best suit the peculiarities of each individual. They take orders for our productions which are fast taking the place of old-fashioned toilet preparations.

We enlighten the public about the importance of taking "external refreshments" by handing them small booklets which explain the importance of skin functions, show how the pores, those millions of tiny mouths and nostrils of the skin, breathe and exhale, absorb and secrete, and why (because they open in the depths of the furrows of the skin which intersect the latter in all directions), they are not reached by the ordinary methods of cleaning.

We further ask the public to consider what roles the people, after whom the Russian, Turkish, Roman, etc., baths are named, play in the history of the world, would a comparison not be in favor of our American methods? At any rate, we do not copy from anyone, our methods are thoroughly original and progressively American. While we have studied very carefully the material left by those who made skin culture their special study, in times gone by, we have developed along special lines, as you will see by examining our establishment.

We do not believe in overheating the body and thus frequently overstraining the heart (as is more frequently done than is generally known), neither do we weaken the tiny muscles, which control skin functions, by alcoholic stimulants and rubs, and by sudden changes from hot to cold water, nor do we poison the germs which, as any intelligent physician will confirm, are present in everybody's skin, not all micro-organisms are injurious, there is an exceedingly delicate dividing line between the upbuilding, useful cells and the destroying, injurious micro-organisms; poisoning the one, endangers the others. Our methods follow the lessons taught by agri-, horti- and floriculture; what the plow, hoe and harrow mean in the cultivation of the skin of the earth, the soil, our methods mean for the human skin. Just as no farmer or gardener thinks of destroying weeds by the application of corrosive solutions, so do we detest the use of corrosive sublimate, chloral hydrate and similar poisons, the weak solutions of which, sold as tinctures, lotions, etc., for toilet purposes, are sure to destroy, beauty first, and health subsequently.

Our methods are a medium between, or rather a combination of, scientific massage and progressive "washing." Our preparations are, although of a soapy nature, not at all like the frothy toilet soaps, the solutions of which bar for themselves, the way to minute "things" (by films stretching over the furrows of the skin, just as a spider's web prevents the passage of rain, etc). Ascage penetrates under the "things" to be removed, there they loosen, detach, surround, lift up and out every thing undesirable, which latter is held firmly in a creamy lather with which it is removed into the sewers.

Why don't I establish similar parlors at home?—simply because the country was not ready for them, here people take more time for such things, in fact, I myself had to go away from busy America for awhile to recuperate and I have built up these establishments, after I found health myself by practicing what I preach, now that they are perfect in every detail, and I have trained my assistants so that they can get along without me I may soon come home again, in fact, I will promise to start "Parlors for external refreshments" in your own city if you carry out your intention and print in your city's best newspapers what you saw here. Send me a copy of it and I will insert advertisements for assistants at once and come over to set the ball arolling."

With these words, Mr. Sage took leave and the writer herewith keeps his promise to describe modern "Parlors for External Refreshments."

Selling Soaps Through Jobbers.

One of the phases of soap selling is interestingly set forth by an article in the N. Y. Journal of Commerce, as follows:

In making answer to the wholesale grocers of this and other States who, through their associations, have made the demand that they cease to sell their products direct to the retailers, the manufacturers who have adopted the practice outline their position in the matter substantially as follows:

"The system is in vogue with a majority of the manufacturers of the present day, and has been evolved through changing conditions of business, and the manufacturers can no more be held responsible for it than can the jobbers themselves.

"We have not the slightest intention under any circumstances or in the face of any demands of placing the distribution of our products entirely in the hands of the wholesalers. They may as well understand this first as last.

"'They that live in glass houses should not throw stones.' Before the jobbers come to us with a concerted demand that we keep out of their field, let the big ones dispose of their plants and cease to be manufacturers and packers themselves in direct competition with us.

"No combination of jobbers would be strong enough to 'throw out' of stock staple articles of trade, such as Quaker Oats, Babbitt's Soap, Pearline, etc. The New York State Wholesale Grocers' Association, as it now stands, represents only about 50 per cent. of the wholesale grocers of New York city and possibly not over 60 per cent. of those of the State; if an attempt was made to 'throw out' any article or line, resignations would be handed in by the dozen.

"What does the jobber do for the manufacturer? In most cases he uses the staples as a lever for the introduction of his own special brands on which he makes a large profit.

"The jobber must remember that he is between the upper and nether millstones, and unless he is exceedingly careful he may be ground to powder."

Leading manufacturers of grocery articles who sell their goods to retailers when seen yesterday by a representative of the "Journal of Commerce and Commercial Bulletin" did not hesitate to explain their methods of doing business. All expressed only the kindliest feelings for the wholesale grocers, with the hope that the State association would become representative of the

jobbers as a whole in order that reciprocal agreements advantageous to trade might be entered into.

Mr. Muns, speaking for the American Cereal Company, said: "The relations of this company with the wholesale grocers' associations of this and other States always have been exceedingly pleasant. At the present time we have a reciprocal arrangement with the jobbers to the effect that all orders secured by our salesmen for less than 25-case lots shall be turned over to them to fill, they agreeing to maintain prices on our products. So far this arrangement has proved very satisfactory to all parties concerned, and we are willing to continue it. We cover the entire territory with our salesmen, who are well-paid experts. As a matter of fact I do not believe that the jobbers would care to handle orders approximating 50, 100 or 200 cases.

"Under no circumstances could the American Cereal Company turn the entire distribution of its products over to the jobbers. Competition among cereal manufacturers is entirely too keen, and, besides, many of the jobbers have their own brands. The jobbing house salesmen is on a friendly, almost confidential, footing with his customer. 'Send me ten cases of Quaker Oats,' says the customer. 'All right,' replies the salesman, 'but look here, Mr. Smith, my house has a special brand of oats I wish you would try; it has given splendid satisfaction; see what Henderson & Co. have to say of it (showing a letter). I want to make you some money. On Quaker Oats you can make, say, fifty cents, while on the 'Our A1' brand you can make eighty or ninety cents.' The consequence is that in some instances the grocer buys the jobber's special, and for a time we lose a customer."

"Mr. Muns, if the wholesale grocers made a concerted demand that the American Cereal Co. employ them as the exclusive distributors of its products with the alternative that they would refuse to handle any of the company's goods, would the company comply?"

"It most certainly would not, though, in my opinion, there is not the least probability that such a demand will be made."

"Is there any disposition on the part of retailers—the large ones—to demand jobbers' prices from manufacturers?"

"Retail dealers are constantly expanding, and 'chain' stores are becoming more and more common in the grocery trade. These people buy in large lots, and quite naturally demand and receive fair treatment at the hands of the manufacturers.

"I sincerely hope that the wholesale grocers of this section will succeed in their efforts to build up a representative and powerful association. By working hand-in-hand with the manufacturers they might succeed in abolishing many existing trade evils."

A representative of B. T. Babbitt, the soap manufacturer, said: "Our salesmen cover the entire territory. The smaller orders taken go to the jobbers; the larger ones we fill ourselves without reference to the jobbers. We consider the present practice of dealing direct with the retailers has grown out of changed conditions of trade, and for the jobbers to attempt to stop it would be like trying to sweep back the ocean with a broom.

"In one day we have turned over to the jobbers of New York business which netted them at least $500, to secure which they had put forth no effort whatever.

"We have never indulged in the practice of subsidizing the salesmen of the jobbers in order that they might have a particular incentive to push our goods; neither have we called upon the jobbers to share in the expense of maintaining our salesmen."

The Royal Baking Company, according to statements made yesterday by a representative of the president, has never sold its goods direct to the retail trade and has no intention of departing from its policy of recognizing the jobbing houses as legitimate and satisfactory distributing agencies.

"The jobber has his distinct sphere," he said, "and in it he is supreme. Considered together, the jobbers know the retail trade as no individual manufacturer can ever know it. The manufacturers who are attempting to evolve a new business system probably will find the experiment expensive and the results unsatisfactory. The thousands of small jobbers who have a trade all their own and a system of credits based on personal knowledge of their customers' honesty and responsibility could very quickly force the manufacturers to terms."

The National Biscuit Company, which is supported almost entirely by the big city trade, it is said, is the only manufacturer of grocery articles which entirely ignores the jobber. It has an elaborate system by which its products are distributed to the retailers.

A manufacturer of a special line of goods interviewed yesterday, said that within the past month he had been approached by another manufacturer with a proposition to operate distributing agencies in the large cities in combination. He had the proposition under advisement.

A representative of one of the largest sugar refining companies said: "We have no dealings with retailers, except such as have been on our books for years, and most of whom use more sugar than some of the large wholesalers. We sell to no one in less than 100-barrel lots, and so long as the wholesale grocers sell our sugar we shall not attempt to go beyond them to the retailers. We have no exclusive arrangements with wholesale grocers; grocers may sell sugars at cost or at a loss, or at a big profit; and all that we are interested in is that our sugars are sold. Of course if a large retail grocer or a large manufacturer or any large consumer comes and desires to buy in 100-barrel lots we are glad to see him, and are glad to sell him if he shows himself a desirable customer.

"But as a rule we believe that the jobbers who have their own trade and to whom sugar is merely an incident in a large business are able to distribute sugar more cheaply than we can as a single article distribute it.

"The main feature in the grocery trade, however, is the gradual introduction of package distribution of all kinds of merchandise. When a manufacturer has got his goods known by the housewife he has won his battle. Whether it be Pearline, Royal Baking Powder or any distinctive name the housewife will call for that name, and the manufacturer is independent alike of jobber and retailer. He has merely to keep his product up to grade and sit back in his chair and spend a reasonable sum per year to keep his goods in proper notice. This is one of the developments of the recent increase in the distribution of merchandise in packages."

Action of Alkalies on Glycerine.

(COMMUNICATION TO THE ACADEMIE DES SCIENCES BY M. A. BUISINE.)

Dumas has shown that potash, or rather potassic lime, acts under gentle heat on glycerine, yielding acetate and formiate of potassium, water and hydrogen. I have resumed the study of this reaction under determined conditions of temperature, collecting, measuring and analyzing the hydrogen and gas formed.

For this purpose I employ the apparatus which I have already described with reference to the analysis of waxes. I heat a mixture of glycerine and potassic lime in the receiver of the apparatus, which is put into communication with a glass reservoir. The apparatus is so arranged as to collect and measure readily the gas produced in the reaction. The mixture is heated in a mercury bath at fixed temperatures up to about 340 deg. C.

The volume of the gas, which is always pure hydrogen within these limits of temperature, varies considerably with the temperature to which the mixture is carried. Between 220 deg. and 250 deg. C., one gram of glycerine yields about 480 cc. of hydrogen under 760 millimeters of pressure; between 250 deg. and 280 deg. C., one gram of glycerine yields about 600 cc. of hydrogen under 760 millimeters of pressure; between 280 deg. and 320 deg. C., one gram yields about 710 cc. of hydrogen under 760 millimeters of pressure.

The first phase corresponds to the reaction of Dumas, which yields theoretically 483.5 cc. of hydrogen under pressure of 760 mm. for one gram of glycerine.

The second phase leads theoretically to a disengagement of 603.4 cc. of hydrogen under 760 mm. of pressure for one gram of glycerine, with formation of potassium acetate and oxalate.

This is because between these limits of temperature (250 deg. to 280 deg.), the potassium formiate produced in the first phase is decomposed into oxalate of potassium and hydrogen, which has been verified directly, with a disengagement of 132 cc. of hydrogen for one gram of potassium formiate. Finally, between 280 deg. and 320 deg. C., the third phase is produced, in which the glycerine is decomposed, yielding potassium acetate and carbonate with hydrogen; theoretically, 725.6 cc. of hydrogen under pressure of 760 mm. for one gram of glycerine.

This results from the decomposition at this temperature of the potassium acetate originally formed at the expense of the formiate, which itself proceeds from the glycerine. This decomposition has been verified directly; 120 cc. of hydrogen for one gram of neutral potassium oxalate.

The potassium acetate, the other product of the reaction, is decomposed under these conditions, only at a much higher temperature, into methane and potassium carbonate.

In fine, there are, under the action of glycerine on potassic lime, three different reactions, according as the mixture is heated to 220-250 deg., to 250-280 deg., or to 280-320 deg. The gas which is disengaged is pure hydrogen, whose volume varies materially from one reaction to the next.

These reactions may be applied to the analysis of glycerine by measuring the volume of the hydrogen disengaged. In this case I give the preference to the third reaction, that is, to heat the mixture to 320 deg. for one hour.

The method is of ready application with the apparatus which has been described; it is also of great sensitiveness, since one milligram of glycerine disengages 0.7 cc. of hydrogen. It is especially to be recommended for the anaylsis of small quantities of glycerine.

Registration of Trade-Marks.

Manufacturers owning valuable trade-marks will be greatly interested in an opinion expressed by the Deputy Commissioner of Patents and the Chief of the Trade-Mark Division of the Patent Office, that it will be advisable for all trade-mark owners whose marks are employed in interstate commerce to re-register them under the new statute that will take effect April 1. This opinion applies not only to marks which may have been registered in the Patent Office, but to such as may have been registered under State laws or are held by virtue of common law rights.

This opinion is based largely upon the decision of the United States Supreme Court in the now famous case of Warner vs. the Searle & Hereth Co., in which it was held that the statute of 1881, which the new Bonynge trade-mark law will displace upon the statute books, provided only for the registration of trade-marks

employed in commerce with foreign countries or with the Indian tribes. The court in that case disclosed the fatal defects in the existing law which, it is hoped, have been cured by the measure which Congress has just passed, holding that trade-marks employed in interstate commerce were not eligible to registration in the Patent Office, thereby withdrawing federal protection from a large number of well-known marks which have been used for many years on the basis of the records of the Patent Office. In this connection the court said:

"Obviously the act of 1881 was passed in view of the decision that the prior act was unconstitutional, and it is, therefore, strictly limited to lawful commerce with foreign nations and with Indian tribes. It is only the trade-mark used in such commerce that is admitted to registry, and it can only be infringed when used in that commerce, without right, by another than its owner.

"Reading the seventh, tenth and eleventh sections together, we find that the registration is prima facie evidence of ownership; that any person counterfeiting or colorably imitating any trade-mark registered under the act, is liable, in the Federal courts, to an action on the case for damages for, and to injunction to restrain, its wrongful use, that is, the use of the simulated mark in foreign commerce or with the Indian tribes; that the provisions of the act cannot operate to circumscribe any remedy which a party aggrieved by any wrongful use of any trade-mark might otherwise have had; and that the courts of the United States cannot take cognizance of an action on the case or a suit in equity between citizens of the same State, 'unless the trade-mark in controversy is used on goods intended to be transported to a foreign country, or in lawful commercial intercourse with an Indian tribe.' * * *

"To make infringement it must appear that the alleged counterfeit or imitation was being used on merchandise intended to be transported to a foreign country or in lawful commercial intercourse with an Indian tribe. But the evidence in this record does not show that defendant used the name of its preparation on merchandise intended to be so transported, while the sales proved were sales in the city of Chicago and northern district of Illinois, and there is nothing to indicate that the preparation was intended to be used in foreign or Indian trade.

"In short, even if it were assumed that there could be a trade-mark in the use of the word 'Pancreopepsine,' which would be invaded by the use of the word 'Panero-Pepsin,' the circuit court could not, by virtue of the act, enjoin such use because it was not used in the commerce to which the act related."

This decision, therefore, makes it perfectly clear that the registration in the Patent Office of many thousand trade-marks that have been there recorded in the past twenty-four years, has not at any time operated to protect the use of such marks in interstate commerce or in any commerce except that exclusively carried on with foreign countries or with the Indian tribes. The Bonynge bill provides "that the owner of a trade-mark used in commerce with foreign nations, or among the several States, or with Indian tribes, provided such owner shall be domiciled within the territory of the United States, or resides in or is located in any foreign country which, by treaty, convention, or law, affords similar privileges to the citizens of the United States, may obtain registration for such trade-mark by complying with the following requirements," etc., and thus specifically authorizes the registration of marks employed in interstate commerce. The question has, therefore, been raised as to whether the enactment of the Bonynge bill does not operate to legalize trade-marks heretofore registered; in other words, as to whether it may properly be regarded as a retroactive statute extending to interstate commerce the scope of trade-marks originally granted only for commerce with foreign countries and the Indian tribes.

Manufacturers intending to re-register their trade-marks will do well to take all preliminary steps without delay, for the reason that several thousand such marks are being prepared for re-registration and the work will tax severely the comparatively small force of the Trade-mark Division of the Patent Office. It is estimated that the business of this division will be more than doubled during the first year under the new law and to meet this condition the Secretary of the Interior has asked Congress for an appropriation of $20,000 to be made immediately available. This appropriation will provide for fourteen additional clerks, including one principal examiner of trade-marks and designs, at $2,500; two first assistant examiners, at $1,800; two second assistant examiners, at $1,600; two third assistant examiners, at $1,400; three fourth class examiners, at $1,400; one clerk at $1,400, and three clerks at $1,200 each. The Patent Office is advised that several Washington attorneys already have from 100 to 200 applications each, which will be filed for the registration or re-registration of trade-marks when the new law takes effect on April 1.

Although the Bonynge bill passed both houses of Congress more than a fortnight ago, it has not yet reached the President, but has been held up in conference, where, however, a final adjustment has been reached. It will probably be signed within a few days, although the President may, under the law, hold the measure for ten days. The only controversy in the conference between the two houses was with regard to the proviso to Section 5 of the bill, which, as passed by the Senate, read as follows:

"And provided further, that nothing herein shall prevent the registration of any mark used by the applicant or his predecessor, or by those from whom title to the mark is derived, in commerce with foreign nations or among the several States or with Indian tribes, which was in actual use as a mark of the applicant or his pre-

decessors from whom he derived title for ten years prior to the passage of this act."

The House conferees contended that in order to register an old trade-mark the claimant thereof must be able not only to show actual use but exclusive use, and numerous illustrations were presented of old trade-marks which have been employed by several manufacturers, no one of whom claimed to be the sole owner thereof. The Senate conferees finally agreed to this change and the words "and exclusive" were inserted after the word "actual" in the above paragraph.

The point was also made by the House conferees that the phrase "prior to the passage of this act" was misleading, as it might be made to apply to trade-marks used for ten years a great many years ago and then abandoned, and the Senate conferees, admitting the force of this contention, agreed to strike out the words "prior to" and insert "next preceding" in lieu thereof. Both houses have agreed to the conference report embracing these modifications and the bill becomes a law in this form.—Oil, Paint & Drug Reporter.

The Life of A Barrel.

BY GEORGE E. WALSH.

The introduction of improved machinery in its manufacture has made the American cooperage business the largest in the world. There are upward of 300,000,000 barrels and circular packages manufactured in this country annually, and the demand increases so that this output must be steadily broadened in order to keep pace with the growth of the business. The largest consumption of barrels is in the cement business, which approximately demands 35,000,000 a year for the trade, while flour comes next, with a demand for 22,500,000; fence staples, bolts, nuts, and nails require 18,000,000, and sugar 15,000,000. Roasted coffee, spices, crockery, and fruits and vegetables use up about 5,000,000 barrels a year each, while the glassware trade, baking powder companies, distilled liquor manufacturers, and candy, tobacco, and cheese packers are big users of barrels, averaging in each trade from 2,000,000 to 3,000,000 barrels. The consumption of barrels for molasses, oil, lard and pork is also enormous, while dry paint, glue, snuff, oatmeal, screws, castings, and general hardware articles annually increase the demand on the cooperage supply.

While the amount of expenditures for barrels can be closely estimated for a given year, it is not possible to say how many barrels are in actual use. The life of a barrel is put down at one year by the trade; but that is far from true. The great majority of barrels have as many lives as a cat. They begin as sugar or flour barrels, and are then sold to the farmer for shipping his produce to market. It may be they are returned to him several times, carrying potatoes or pickles to market in the first trip, and then cabbages or lettuce in the next, each cargo being lighter in weight than the previous one, owing to the weakened condition of the barrel. Finally, the barrel may serve out its life work as a garbage receptacle, and be burned in the end in some tenement house to keep out the winter's chill. Thus it may be said that a barrel serves a more useful career than almost any other manufactured article, and its life is much longer than a season.

The demand for barrels is steadily increasing because modern machinery has made it possible to make them for the trade cheaper than almost any other form of package. That it is the most convenient form of package has long been acknowledged. The ancient cooper's art was a skilled one, and the work of cutting out the staves and then assembling them required long practice and apprenticeship. To-day machinery performs in a fraction of the time what hand labor did so slowly and clumsily.

The modern veneer machines have been instrumental in reducing the cost of barrels. Hand labor is eliminated here to such an extent that the work of feeding the machines constitutes most of the requirements of the operators. The staves are cut to the required thickness by the machines, and then pressed into shape by hydraulic pressure until they are ready for the assembling machine.

A feature of barrel-making in this country is the grading of the circular packages so that all the lumber brought to the factories can be utilized. One class of barrels must be absolutely water-tight, without a flaw of any kind in their staves. Barrels made for the oil, whisky, and paint trade must not only be flawless, but they must have a resistance power equal to a lateral pressure of five hundred pounds. In order to secure this the staves must be put to a rigid test beforehand, and they must be cured so there will be no danger of shrinkage and damage when put into use. Lumber used for this work must be carefully selected, and it must be cured by nature's slow but sure process. Kiln-dried lumber would never do. The condition of kiln-dried wood is such that it would prove too brittle.

The choicest oak, hickory, ash, or other hard wood must be selected for barrels used for such purposes, and their cost is consequently in proportion to the extra labor and cost of the raw product. Out of every dozen trees in an ordinary woods only four or five will be found to pass the most rigid examination and tests.

The second grade of barrels comprises those which have to endure a great lateral strain, but which do not have to be water-tight. To this class belong the sugar barrels, and all those used for packing hardware. The staves must be made of hard wood, but they only require strength and a power to resist three or four hundred pounds lateral pressure. It is possible to use for these barrels most of the lumber rejected for the first

class of barrels. There must not be knot holes in the barrels, however, for tightness to some extent is essential. While the sugar and flour barrels have paper lining inside of them, they will spill more or less of the contents if holes and cracks of an unusual size are left in them.

The third grade of barrels includes those used in the hardware trade and for packing tobacco, spices, and coffees. The weight of these articles is no less than sugar or flour, but their sides need not be so tight. The barrels and kegs for the hardware trade must be stout, but lumber can be used that is somewhat defective. Knots are not necessarily a bar to the use of staves. Some of the rough lumber used up in this way is practically of little or no use for the manufacture of any other kinds of circular packages. The cost of the raw material being smaller, the barrels can be sold to the trade from fifty to sixty per cent. less than those made for sugar, molasses, oil, whisky, and paints.

The question of hoops for these commercial barrels is fully as important as the staves. The use of wire and flat iron hoops has become quite universal, but where wooden hoops can be used as well, they always receive the preference. The most satisfactory method is to use wooden hoops, reinforced by iron or wire ones. A great many of the barrels used in the trade are thus held together. There is a uniformity of strength existing between staves and hoops which must be carefully computed in the manufacture of barrels for the different trades. To make hoops that would break at a straining point of two hundred pounds for barrels that were built of staves guaranteed to withstand a pressure of five hundred pounds would be a waste of good material. If anything, the hoops must have a resistance more than equal to that of the staves. The hoops are consequently the most important part of the barrel. Stout hoops will hold a barrel together even when the staves are weak, and it is possible to hoop a barrel of 200 pounds resistance so that it will resist a pressure for a time of 500 pounds. The breaking power of either the wooden or wire hoops is carefully computed for each class of barrels, and when properly made and applied they will insure a long life to the circular packages. The life of the barrel is estimated by the life of the hoops, and to prolong it beyond that period new hoops must be supplied.

Soapmaking Secrets.

Under the above heading the "Star of Hope" published a remarkable mixture of sense and nonsense in a recent issue, which is of no remarkable value to any soapmaker, but as a curiosity is not without interest. It says:

Star of Hope: How many people, as they handle the finished article, know the process through which it has gone before it reaches them and the ingredients that compose soap, this very necessary article of our daily life? The common yellow brand, or, as it is termed in the trade, "family soap," depends for its success in the market on its "color;" that is, the lighter and clearer the shade of yellow the finished article has, the more ready its sale. To attain this color the makers each have a method of their own of boiling, and, if that fails, of bleaching to bring out the "color" scheme. Toilet soap goes through a much different process in its manufacture, and to show the different process each grade goes through, I will give the evolution of each from the raw material to the finished product.

In and about Greater New York are several of the largest soap works in the world, a few of them catering to both the family and toilet trade. In the making of family soap these factories use immense kettles or tanks, open at one end and holding from 75,000 to 150,000 pounds of the liquid soap. Into these kettles is first dumped the grease, or stock, as it is called; steam is then turned on the mass through a system of coils of two-inch pipe in the bottom of the kettles. Some of these coils are called "open" coils on account of their surface being punctured to allow the live steam to percolate through the soap to facilitate rapid boiling. As soon as the stock has reached the boiling point the caustic soda or lye is then added, the mass being allowed to boil thoroughly for five or six hours, after which the rosin is added; the proportion of the stock in the kettle now being 50 per cent. grease, 30 per cent. rosin, and 20 per cent. soda or lye.

Now comes the real boiling, which goes on without interruption for three or four days, by which time the mass has thoroughly saponified; salt is now added, steam shut off and the mass allowed to settle for about three days, after which it is pumped into a sort of mixing machine resembling a large drum, with a shaft running through its center, on which are rapidly revolving blades. This is called the "crutcher." The sediment that remains in the bottom of the kettle after the soap has been drawn off was until a few years ago, run off into a sewer as waste, but now it is run into tanks and used in the manufacture of glycerin. It is at the "crutcher" the real doctoring of the soap takes place. If the rosin the soapmaker has been using was of an inferior dark grade, or his stock was extra rancid, he gets to work on this churning mass in the "crutcher" and produces a bleach that many an old maid would give a fortune to know the secret of. It is here the perfume is added and, if the market price is too low, he can and does swell the weight of his stuff while at this "crutcher" by simply adding silicate of soda, soda ash, silex or whatever pet preparation he may have.

After being "doctored" and stiffened by the "crutcher," the soap is run off into adjustable iron or wooden frames and allowed to cool and harden, preparatory to

being taken to the cutting tables, where the frames are run through gauges set to cut the different sizes of bars or cakes the trade may demand. From these tables the bars and cakes are placed in drying rooms, where they are subjected to a high temperature, which puts a gloss on the finished article and enables the pressman, to whom it goes after leaving the drying room, to stamp clearly the various designs and trade-marks upon its now even, smooth surface. It is then wrapped in cleverly worded circulars and gay wrappers and dumped upon the gullible public. The toilet brand of goods goes through a much different process of manufacture. It is not boiled. The tallow and, in high grade goods, the cocoanut oil used as stock are heated sufficiently to mix well with soda or lye, and then poured into frames, where it is "crutched" by hand, a wooden dasher, the same as those used in the making of buttermilk, being used in this operation. After being "crutched" it is allowed to cool and harden, and when it has grown firm enough to handle the frame or mold is stripped away and it then resembles a block of dirty marble. This block is then taken to a chipping machine, by which it is chipped, the same as a mill planer would chip a board. These chips are placed on trays and left in the drying rooms until they are thoroughly dry and crisp.

A small box trunk, carrying about 150 pounds of the now dry, crisp chips, conveys these to a mill where are running three heavy granite rollers. The coloring liquid and perfume are now added to the chips and the whole is passed backward and forward through these rollers until the color has thoroughly permeated every particle of the now long, silky ribbons into which the chips have been rolled. Pink, green, yellow and heliotrope are the standard colors used in toilet soap.

Let us suppose that the batch just passed through the mill has been colored green and is now a beautiful shade of emerald. It is then placed in a machine called a "platter" in which it is heated and worked up until it is a soft mass, about the consistency of putty; the end of the platter is then opened, and this soft mass is pressed out through a small circular hole, after which it is cut into small sections to be pressed.

It is here the "funny" part comes in. The batch has been cut into between four and five gross of blank cakes, and the pressman has an order for one gross of Dr. Kakem's Freckle Soap. He runs this off and picks up the next order, which reads, "One and a half gross of Dr. C——'s Wonderful Skin Soap." He takes the Dr. Kakem die out of the press and puts in Dr. C——'s W. S. soap die, and presses this order out of the same batch as the last. The balance of the original four or five gross will possibly be pressed up in one-half gross lots, each lot claiming widely different curative properties. Of course, this does not apply to all toilet soaps, as there are a few good brands on the market, such as a good glycerin soap, also one or two good sulphur soaps and a few white soaps.

"Paint covers a multitude of carpenter's sins." This saying can be twisted around a little and it will apply to the toilet soap trade. When you see a bargain sale of soap of all the colors of the rainbow, advertised to restore the baby skin of childhood on a hobo's mug, steer clear of it. There never was or will be a good soap on the market that had to be colored, no matter what magazine or poster "ads." may say to the contrary. If their goods were the simon pure article they claim to be, makers would not have to spend the large sums they do for coloring material. The writer has one case in mind where he changed dies eleven times in one afternoon in pressing thirty gross of a cheap pink soap, each of the eleven changes having a different trade-mark, and claiming widely different properties.

In the "family" trade all the cuttings and defective cakes are remelted and used, the loss in remelting being scarcely noticeable. In the toilet trade this remelting is impossible, as the scraps, cuttings, etc., are of different colors. These scraps are quite an item to a manufacturer, and he cannot afford to throw them away, so he gets around it in this manner: He carefully guards them, and when he has a large kettle, turns the steam on this mass of scraps of all colors, and when it reaches the boiling point he adds a generous portion of pine oil and soda, and after thoroughly mixing this concoction he turns it out, tar soap. I do not know whether all tar soaps on the market to-day are made from scraps and cuttings, but from past experience I will bet my new "stripeless" uniform that all the cheap grades are, and I will be in no danger of losing my "stripeless" either.

Towels and Soap in China.

About a year ago a native of T'aichau, in the customs district of Wenchau, Chekiang province, established a towel factory at T'aichau, and it seems to have been quite a success. A soap factory was established at Wenchau also last year, and this, too, has been a success. Soapmaking establishments in this district are not extensive, but they are profitable and the business will rapidly develop. There is a strong demand for soap and towels in much of China, although imports of both articles in the past year or two have decreased. In 1901, Hangchau imported 8,250 dozen towels, valued at $2,532. In 1902, it imported 9,282 dozen towels, valued at $3,184, and in 1903, 7,801 dozen, valued at $3,154. The increased price probably explains the whole story. The sort generally imported are of rather light weight, many of them 18 by 40 inches in size and practically all of Japanese make. The imports at Ningpo are in almost the same volume and practically at the same prices. At Wenchau imports have been light, 2,453 dozen,

valued at $1,019, having been imported last year. The imports this year will probably be much less. The decrease in towel imports, however, is merely in keeping with the decrease in other common cotton goods, and represents a question of price. When cotton goods of foreign manufacture become too dear in China the Chinese do without them.

The extraordinary cheapness of towels, 86 cents Mexican or about 40 cents gold per dozen on the average, seems remarkable, but the customs authorities assure me this is a fair valuation. The quality is very poor and the weight light.

It is significant that while the imports of bar soap at Ningpo last year were 355,041 pounds, valued at $9,370, and 7,496 dozen cakes of toilet soap, valued at $1,969, there were also imports from native sources of 41,629 pounds, valued at $1,005. The fact that any place in China has come to manufacture more soap than it can use may naturally be considered of some importance.

The value of the figures given lies in the fact that they show a big demand for soap and towels when the prices are such as to bring them within the reach of Chinese consumers. The lower the price the larger the number of people who can afford to use them and the greater the sale in proportion. The difference of several cents a pound on soap in Hangchau between 1901 and 1902 made a difference of about 40 per cent. in value and 80 per cent. in quantity, the classification as to quality remaining the same. The demand in China is steady and strong, but the soap must be cheap. Soaps of low quality, highly scented, and gaudily decorated are popular for the toilet. The bar soaps must be very cheap, and apparently, Chinese laundry arrangements do not contemplate any saving of fabrics by the use of substances which will not injure them. The first great requisite of soaps and everything else in China is cheapness. Most of the soaps now imported come from Japan, generally with bogus European marks. Some European soap makers, however, are making an effort to get some of the trade. American goods, if put out cheaply enough, would be readily taken.

GEORGE E. ANDERSON, Consul.

Hangchau, China, December 5, 1904.

The Soap Tree Coming to the United States.

California, which has already won fame by its production of wines, nuts and fruits, bids fair to win renown in another line of agriculture which is most unique. Experiments are about to be made with still another variety of fruit-bearing tree, but this time the epicure will be disappointed if he expects new delight for his palate.

The new tree, which it is probable may develop an industry peculiar to itself, is being brought from Africa, and if it thrives in the soft California climate, there will very soon be a new brand of soap on the market.

Asia and Central America both have soap trees, but the Algerian variety of soap fruit contains 28 per cent. of soap, while none of the others contains more than 8 per cent.

Within two years this wonderful tree grows to a height of ten feet, and when it is six years old it begins to bear fruit, the annual yield increasing largely with each succeeding year. At maturity the tree is from 40 to 50 feet tall and produces from 200 to 300 pounds of fruit annually. German chemists are already using the product of this wonderful tree in soap factories, and the berries are very good soap without any treatment whatever. The seed also produces a fine oil.

Who knows but that we may yet find the soap orchard as well known in the Southern States as the orange grove is, while the dainty American girl will inquire solicitously of her chemist as to what plantation was the source of her latest toilet accessory.

Calculation of Heat in Coal.

While it is true that the efficiency of coal depends upon the heat units it is capable of producing, still the number of these units which will be utilized will depend upon the efficiency of the boiler or other apparatus to which the heat is to be transferred. For this reason it is not always economy to use the coal capable of generating the greatest number of heat units, but rather that which is most suitable to the particular style of boiler, firing, etc., under which it is to be burned.

F. Haas, of the West Virginia Geological Survey, has recently proposed the following formula for calculation of the heating value of coal from its proximate analysis: Calorific power (B. T. U. per 100 lbs.) = 15.675 (100 — per cent. ash — per cent. sulphur — per cent. moisture) + (4.050 × per cent. sulphur). Calorific power (cal. per 100 kilos) = 8.710 (100 — per cent. ash — per cent. sulphur — per cent. moisture) + (2.250 × per cent. sulphur). Results obtained with this formula are close enough for rough heat calculations, and it is useful for this reason.

For determining the suitability of coal for a given boiler or purpose, a proximate analysis is most useful; that is a determination of its moisture, volatile combustible matter, fixed carbon and ash. From the results of such an analysis coal may be classed under the following heads, according to the percentage of volatile and combustible matter it contains: Anthracite, below 8 per cent.; semi-anthracite, 8 to 13 per cent.; semi-bituminous, 13 to 25 per cent.; bituminous, 25 to 40 per cent.; cannel, above 40 per cent.

Of these clases the semi-bituminous coals are the most valuable as steam coals, because of the fact that they kindle and burn rapidly. When burned they give off a

great quantity of heat and can always be relied upon to keep up an intense and free burning fire; requiring little attention and easily kept clean and in good condition.

The tendency of coal to produce smoke increases with the volatile matter which it contains. Anthracite coal is practically smokeless, and from this point on, the more volatile matter the coal contains the more smoke it is apt to produce on burning. In spite of the prevailing impression as to the great loss of combustible matter due to smoke, it is a fact proved by many experiments that the actual waste is generally comparatively insignificant.

The Utilization of Pine Oil.

The continuous high price of turpentine oil has forced its consumers, that is, the manufacturers of varnish, to look about for a substitute. Of all those recommended, not few in number, pine oil has ben unanimously conceded to be the best. Its only real fault is the unpleasant odor, and it has been hoped that this could be lessened, if not entirely removed, by suitable methods of distillation. Numerous experiments have been made in this direction, but it has not yet been found possible to free the oil so completely from its odor as to make it a real substitute for oil of turpentine.

The present writer has himself not failed to make experiments. I have devoted myself for some years to the study of pine oil and my labors have not been altogether without result. Incited by the German Varnish Manufacturers' Union, which has offered a prize to the person who should produce an odorless pine oil, I have applied myself anew to the task. I will show in what follows that it is possible to manufacture a pine oil which, if not absolutely odorless, is at least very well adapted to practical use and is not only a substitute for turpentine, but in some respects superior to it.

I will begin with the distillation of the crude resin, which, for the sake of completeness, I cannot omit. During a four years' residence in Russia I had the opportunity of becoming thoroughly acquainted with this process.

One thousand kg. of crude resin, with 1½ per cent. of slaked lime, are subjected to distillation in a wrought-iron retort, just as in the method practiced in America. The best kind of heat is from a direct but very gentle fire. The pale yellow pine oil which first passes off contains a large amount of water, almost one-half, indeed. As the distillation proceeds the quantity of water becomes less and the oil gradually becomes darker, a proof that a considerable part of the resin passes off in the distillation process as rosin-oil. When the distillation is finished, the fire is extinguished and the retort left to cool until the next day. The lustrous black residue is then drawn off through a spigot and packed in barrels or boxes as a by-product which can be further utilized. I will speak later of the use of this residue.

The retort is opened with the greatest caution, as it often contains a great deal of gas, and is thoroughly cleansed from resin and the residue of lime. The pine oil has by this time settled in the wrought-iron receivers and the retort is filled with two-thirds oil and one-third water, tightly closed, and the contents subjected to a second distillation. The oil which passes off is divided into two portions, in separate receivers. Each of these receivers must be provided with two spigots, one close to the ground for water, the other one-half meter higher for the oil. The oil obtained in this way is as clear as crystal, like any other turpentine oil, and such has lately been brought in from Russia. If the two separated portions of the oil are compared in respect to odor, it will be found that the second half has scarcely half as much odor as the first, a fact which seems to justify the assumption that it is, after all, possible to produce an odorless pine oil.

Before I proceed further I must pause upon one point. There has been in the past an idea, which still exists to some extent, that treatment of the pine oil with caustic soda lye, previous to the second distillation, brings about better results. I cannot share this opinion. In Russia, twenty years ago, we worked the oil thoroughly together for several days, with a third part soda lye, and washed it repeatedly with water; it was then left for a few days, and an almost black, mucilaginous mass was deposited. The oil, which had become brownish red and dirty from the lye, was subjected to the second distillation, and we obtained a very beautiful, crystal-clear oil. We were satisfied with the result and did not attempt at that time to discover by trial whether the oil would be equally fine without the lye. The odor was not lessened, hence the oil was used only for the inferior qualities of varnish. In the last few years I have made numberless experiments without lye and have found that this does not exercise the slightest influence upon the color of the oil, any more than does the repeated distillation with lime. The latter treatment may even prove, under some circumstances, dangerous, as various experiments with glass retorts have demonstrated to me. Since the lime is heavier than the oil, it is deposited upon the bottom of the retort, where it has the greatest heat, and evolves strong vapors, which send the mixed mass upward and drive it through the discharge pipe. If the retort is not extremely solid, there is likely to be an explosion. I have broken several retorts in this way and had each time a small conflagration.

I will now return to the further treatment of the pine oil, particularly the second half of the second distillation. The oil is placed with an equal quantity of water,

preferably about blood warm, and the two are thoroughly mixed together for ten or fifteen minutes, then left until the water has settled, and this is then drawn off through the lower spigot of the vessel. This process is repeated five or six times, the more the better. If the water which has been used in the washing is examined it will be found to have the same strong odor as the portion of oil which was washed with it.

According to the method here given water is the best and cheapest means of removing the disagreeable odor from pine oil. I do not deny that a part of this odor is removed by washing with lye, but this process, aside from its cost, is an unpractical one, since clothes and utensils are ruined thereby. If the second half of the oil, twice distilled and several times washed, is now placed in a clean retort with one-third water and one-fifteenth part of pine needles, and once more distilled, a mildly aromatic oil is obtained. This is quite similar to the French turpentine oil and is not only superior to any other substitute in point of quality, but is excellently well adapted to varnishes, since all the resinous portions are removed by the repeated distillations and no trace of the pine oil odor remains. I am doubtful, to be sure, whether this method can be employed in the manufacture of large quantities, but it is certain that it would be possible for the principal manufacturers of varnish to supply their own needs in this way. I have not investigated the question of whether the first half of the second distillation can also be improved by this method, as I have not had means or opportunity of doing so.

I will add something in regard to the use of the residue of the first distillation. This, drawn off from the retort and cooled, is a black mass, resembling rubber. It is first pulverized, then dissolved with equal parts of turpentine in a shaking cask, and brought into a stationary receiver to settle. If the residue is melted together with resinous substances there is a congealing or hardening of the mass, since it contains a considerable amount of lime. But if it is dissolved with turpentine (it is insoluble in spirits), it is easily mixed with any asphalt varnish, and an admixture of this solution with coal or rosin in varnish gives a beautiful gold-varnish.—Bernhard Schneider, in the Farben Zeitung.

To Become A Partner.

You will never be a partner unless you know the business of your department far better than the owners possibly can. Instead of the question, "What must I do for my employer?" substitute "What can I do?" Faithful and conscientious discharge of the duties assigned to you is all very well, but it will not do for the coming partner. There must be something beyond this. The rising man must do something exceptional, and beyond the range of his special department. He must attract attention. There is no service so low and simple, neither any so high, in which the man of ability and willing disposition cannot readily and almost daily prove himself capable of greater trust and usefulness.—Andrew Carnegie.

Tries to Scrub With Cheese.

A lady walked into a grocery with her sleeves rolled up to her elbows and with a desperate look in her eye.

"This here," she observed with a sniff, as she banged a piece of yellow substance on the counter, "is the soap what does the washin' of itself; the soap what makes ev'ry washin'-day a kind of a glorified bean feast; the soap what gits all the linen as white as snow and as sweet as a hazelnut by dinner time, and lets the happy housewife spend the rest of the day playin' with the children, and here am I been scrubbin' three mortal hours with that lump, and ain't got so much lather out of it as I could git from a briekbat."

"I beg your pardon," remarked the grocer, courteously, "but it isn't the soap. Your little boy came in here yesterday for half a pound of both soap and cheese. That's the cheese!"

"The cheese!" gasped the lady. "That accounts for the other thing, then."

"The other thing?" queried the grocer.

"Yes, the other thing," came the reply. "I was layin' awake half the night wonderin' what it was made the Welch rabbit we had for supper taste so funny."—Exchange.

The New Chinese Trade-Mark Law.

The increase of business of our Western merchants with the Far East, and the difficulties experienced in protecting trade-mark rights, familiar enough in the Occident, but little known in the Orient, have led to the enactment of new trade-mark laws in Asiatic countries. The old laws, while satisfactory under the old conditions, were not suitable under Western changed business methods. When there are few middlemen, and most of the business done is an exchange between manufacturer and consumer, the value of a trade-mark is not apparent; for the consumer knows whose goods he is purchasing, and if the manufacturer has a reputation for the quality or quantity of merchandise sold for a fixed price, the consumer may go again to the man whose goods he previously found to be satisfactory. Where, however, the goods are sold in quantities to middlemen or storekeepers, the consumer is unable to determine whose goods he is purchasing when there are no labels or trade-marks on the wrappers. With the extensive use of trade-marks without changes in the laws to protect this new species of property, there was considerable opportunity for fraud.

For some time, it has been customary for Western merchants to protect their trade-marks in China by registering them in the consulates of the home countries, the consuls of the different countries recognizing the property rights of the registrants, and enforcing them against infringers who were citizens of their respective countries, and the China Foreign Office enforcing rights when the infringer happened to be a Chinese. The many offices at which registration could be secured, and the unsettled procedure which was followed in proceeding against infringers, led to the passage of the new Chinese law, under which the trade-marks of all merchants doing business with China should be registered. The new law provides for the grant of registration to the first person filing an application, the only exceptions being in cases where the applicant has protected his mark under the old procedure, by securing a registration at a consulate, and where registration has been secured in the home country of the applicant. To secure the benefit of these exceptions, the applicant should file his Chinese application within six months of October 23, 1904. When the home registration is secured after October 23, 1904, the proprietor of the mark has four months in which to file his Chinese application with the priority of the date of the home registration. As the time in which merchants may file their application in China, with the priority of October 23, 1904, will shortly expire, many applications are being filed. When the applicant is unable to take advantage of the provisions which enable him to claim the date of the passage of the new law or the date of his home registration as his date of priority in China, his application is dated as of the day on which it is filed.

Ample provisions are made for the enforcement of the rights granted by the new registrations.

Passage of the New Trade-Mark Law by the Senate.

The Senate has passed Mr. Bonynge's trade-mark bill, and sent it back to the House for the acceptance of a few minor changes. In all likelihood the new law will go into effect on April 1, 1905. This law will work a most salutary improvement in American trade-mark conditions. Particularly important are the provisions which permit the owner of a mark that was not registrable under the old law, because it was descriptive or geographical, to register under the new law, provided the mark has been used ten years.

Furthermore, there is nothing to prevent trade-marks registered under the old law from being renewed under the new law six months prior to their expiration. The advantages of this procedure from a legal standpoint are the following: An infringer can be more surely followed and more heavily punished under the new law; and the injunction obtained against him is operative in every circuit court of the United States without a rehearing. The provisions of the law have already been fully discussed in these columns by ex-Assistant Commissioner of Patents Greely, the father of the bill.

The Perfumes of The Moghuls.

BY DAVID HOOPER, F. C. S., PH. C. (SLIGHTLY ABRIDGED).

The *Ain-i Akbari*, or annals of the Emperor Akbar, is a monumental work, written in the Persian language, by Abul Fazl Allami, descriptive of the administration and history of the Moghul period.

The chapter on perfumes is introduced in the following words: "His Majesty is very fond of perfumes, and encourages this department from religious motives. The court hall is continually scented with ambergris, aloe wood and compositions according to ancient recipes, or mixtures invented by his Majesty, and incense is daily burnt in gold and silver censers of various shapes, whilst sweet-smelling flowers are used in large quantities. Oils are also extracted from flowers, and used for the skin and the hair."

In the following enumeration of the substances used in Moghul perfumery the chief references of interest will be preserved, and these will be supplemented by remarks on each article as given by later writers, and as are known at the present time.

Although ambergris was known and used in Eastern perfumery for many ages, its origin was buried in some uncertainty. In the *Ain-i-Akbari* it is supposed to grow at the bottom of the sea, where it is eaten by fishes who die from it, and it is taken from their intestines. Another mythical supposition was that on some mountains where honey was formed in abundance it ran into the sea, the wax rose to the surface, and by the heat of the sun was reduced to a solid state and converted into ambergris; as bees collect honey from sweet-smelling flowers ambergris formed in this phenomenal manner is naturally highly scented. Three kinds are described by Akbar's historian; the best kind, called Ashhab, had a greasy consistence and a yellowish-white color; the next in quality was called Khashkhashi, of a yellowish-brown color; the third kind was black and inflammable, and was frequently mixed with wax and an odorless substance called mandal. Ambergris is now known to be the fæcal matter of the cachelot or sperm whale (*Physeter macrocephalus*), which inhabits the Indian Ocean. Tavernier informs us that the best ambergris came from the coast of Madagascar, and that each Governor of Mozambique returning to Goa after his term of three years' service, brought with him ambergris to the value of £30,000. Weight for weight it was worth more than gold in the estimation of the Portuguese; it was valued by Abul Fazl at one to three gold mohurs (Gold Mohur

equals 15 rupees; rupee equals 1s. 4d.) per tola. (Tola equals 180 troy grains.)

Ladan is accurately described as a substance taken from a tree growing in Cyprus and Chios. It is a resinous juice that settles on the leaves and branches of shrubs of various species of *Cistus,* and is collected by means of an instrument resembling a rake, with leather thongs instead of teeth, which is drawn over the plant. Ladanun or albdanun is also obtained from the beards of goats which have browsed upon the leaves of the *Cistus* shrubs, and it is gathered from sheep and goats whose fleeces have become loaded with the resin while pasturing. In olden times it was frequently confounded with ambergris. Ladan fixed with goats' hair and having a greenish color and a strong odor was considered the best. It is purified by boiling with water, and it is afterwards made into cakes; these gradually harden on exposure to air, possess a peculiar balsamic odor, and burn with a clear flame.

The article devoted to the discussion of camphor, although of great interest, is not without many purely legendary statements. The tree is said to grow in the ghauts of Hindustan and China, and is of such magnitude that more than a hundred horsemen may rest in its shade. Several vernacular names are given to camphor, of which that called Ribahi or Quicuri is the best, as it is as white as snow, and the worst camphor, dark colored and mixed with pieces of wood, went under the the name of Balus. It is said that camphor was first found by the King of a country not far from the Island of Ceylon. Abul Fazl concludes his article by describing the preparation of a mixture of white stones and wax, powdered and made into a paste, and flavored with camphor and spices. When cold and dry it had the appearance of camphor, and, says the historian, "unprincipled men profit in this manner by the loss of others."

It is now generally admitted that while the laurel camphor from China and Japan forms the bulk of this article used in commerce at the present time, Borneo camphor derived from the *Dryobalanops aromatica,* was the only kind known in Europe in the middle ages. Garcia d'Orta, who wrote at Goa about the middle of the sixteenth century, was well acquainted with both kinds of camphor, and mentioned that the China camphor was then being exported to Europe. Borneo camphor is obtained by splitting the trunk of the tree when it is found in whitish flakes, situated in irregular veins near the center of the stem. The author of the "Makhzan-el-Adwiya" mentions the fact of several pieces of the timber having been brought up the Hooghly which when cut up into planks yielded a quantity of camphor. Referring to the supposed action of earthquakes in producing a yield of camphor, it is interesting to notice that in some trees the concrete oil is secreted under such pressure that the trunk gives way at the least shock. Sir Spencer St. John, British Consul in Borneo, in his "Life in the Forests of the Far East," speaks of a strange sound being occasionally heard in the oldest forests occasioned by the splitting asunder of the tree on account of the accumulation of camphor in some particular portion.

Bhimsini, or Borneo camphor, sold in Akbor's time at the high price of Rs. 2 to Rs. 3 per tola. Bazaar dealers have the peculiar custom, probably derived from Malaya, of giving a few peppercorns along with every piece of camphor purchased, in accordance with the idea that in contact with black pepper, or surkh danahs, it will not so readily evaporate. Camphor is used very largely as an insectifuge, as an offering at the temples, and the Jains employ it to prepare an Abir, or sacrificial powder.

The description of civet and its preparation occupies a special article in the *Ain,* from which we gather that it was considered a valuable perfume. Zabad and Shakh are the vernacular names for civet, which is a moist substance secreted by an animal resembling a cat. The Zabad brought from the ports of Sumatra and from the territory of Achin, going by the name of Sumatra Zabad, was most esteemed. The moist substance is yellowish-white, and is contained in a bag of the size of a hazel nut below the tail of the animal. The bag may be emptied every week or fortnight, and yields from half a tola to eight mashas. (Masha equals 15 troy grains.) When removed, the Zabad is washed first in cold water, then in warm water to remove impurities, in lime juice to remove the unpleasant smell, and finally in rose water; it is then dried by exposing it in a cup covered with a piece of white cloth, to the rays of the sun, until all moisture is removed. It has a most persistent odor when applied either to the skin or the clothes.

Civet was imported in small cups, leather bottles or horns. Bernier relates how an ambassador from Ethiopia, named Murat, brought to India for presentation to the Emperor Aurungzeb the horn of an ox filled with civet. Unfortunately the horn was emptied of its contents in Surat, by soldiers of Sivaji's army, and the ambassador arrived at Delhi with the empty receptacle. Bernier, however, was struck with admiration at the huge horn which had contained so precious a gift, and measuring its mouth, he found that it exceeded half a French foot in diameter.

At the time of Akbar the price of a civet cat varied from Rs. 300 to Rs. 500. Abul Fazl records that an inferior perfume, named Gaurah, of a greyish-white color, was obtained from an animal like the civet cat, but somewhat larger. It was brought from the confines of Achin, and the price of the animal varied from Rs. 100 to Rs. 200. A third animal is alluded to which yielded a substance named Mid. Mid was said to be an inferior substance to civet, and was sold mixed with

other ingredients; others said that Mid was the dried bag of the civet pounded and boiled in water and the greasy substance which rose to the surface was the essence.

This perfume is afforded by the large Indian civet, the Malabar civet cat, the Burmese civet and the small Indian civet. The last-named, the *Viverricula malaccensis* of zoologists is still occasionally caged as a producer of civet. Not long ago in Travancore, an establishment was maintained by Government for keeping civet cats for collecting the unctuous secretion, but is now abolished. Civet is said to have a disagreeable ammoniacal odor and an acid and pungent taste. It is still collected by the Abyssinians who put the civet in small cattle horns which are packed in cases. It is sold at prices ranging from Rs. 5 to Rs. 10 per ounce, according to purity and color. There is produced annually from 250 to 300 pounds of this article, about one-half of which is shipped to New York, a considerable amount goes to France, and the balance is used by the native in its natural state.

Lignum aloes, or wood of aloes, called in Arabic Ud and in Hindustani Agar, is said to be the root of a tree. The wood is cut up and buried in the earth, the inferior portion decomposes and the remainder containing the oleo-resin is pure aloe wood. There are several kinds of this wood, the best is called Mandalli and the second Jabali or Hindi. Of the other kinds the Samandure is grey, hard and juicy, and burns for a long time; the Kemari is inferior to it; the Kakuli comes next in rank; the Barri, the Qiti or Cathay, the Chinese, also called Kemoory, which is moist (oily) and sweet. Still inferior are the Jalali, the Mayataky, the Lemaki and the Ritali. As at the present time the best kind of aloe wood is that which is dark and heavy, and sinks in water; the light-colored fibrous wood which floats is regarded as worthless.

The source of the Agar is the *Aquilaria agallocha*, a tree which grows in Sylhet and Assam and in the Mergui Islands of Burma. Abul Fazl states that former kings transplanted the tree to Gujrat, and that in his time it was growing in Chanpanir. He disposes of the absurd statement of former writers that the habitat of the tree was in Central India, at the same time he informs us that the supply of the Indian market was mostly from Achin and Dahnsari. It was brought to India by Dutch merchants from Batavia.

Aloe wood is often used in compound perfumes. When taken internally as a medicine it is exhilarating. The aroma of the wood is a preventive against fleas, and in the form of a powder is rubbed into the skin and clothes. It is genarally employed as an incense and for making the Fatelah tapers, as it readily burns and communicates a peculiar and grateful fragrance to an apartment.

Chuwah is the name given to the oil or otto distilled from aloe wood. The wood in small pieces and soaked in water is placed in a small clay bottle or alembic, the neck of which is united to a second vessel containing water in a cup. A gentle fire is lighted below the first vessel containing the chips of wood, and an oily substance condenses in the cup of water in the receiver. This oil is washed with water to remove the odor of smoke; and it is said that the oftener it is washed and the longer it is kept, the better will be the scent. One seer (2.059 lbs.) of aloe wood will yield from 2 to 15 tolas of chuwah, and the price is annas (16 annas equals 1 rupee), two to one rupee a tola. Chuwah is naturally of a dark color, but sometimes it is sold as a thick white liquid. Akbar's historian deplores the sophistication of this perfume when he says: "Some avaricious dealers mix sandal-wood or almonds with it, trying thereby to cheat people."

Agar-attar, or otto of aloe wood, is still made by the inhabitants of Sylhet by a rude form of distillation, and sells for Rs. 3 per tola.

Sandalwood, called in Hindustani chandan, is of three kinds—the white, the yellow, and the red. The best is that which is yellow and oily, and goes by the name of makasary. Abul Fazl in writing on this article informs us that the tree grows in China, and that during the reign of Akbar it was successfully planted in India. Abul Fazl quotes no authority for his statements, but we are inclined to believe that sandalwood was obtained from the Mysore Province much earlier than the Moghul dynasty, as historians relate that Indian imports were received in Oman in the Persian Gulf at an early date, and it was known to the Greeks from the time of Alexander.

Sandalwood was used in the form of powder and rubbed over the skin as a cosmetic; it also entered into the preparation of compound perfumes. The art of distilling the wood for its essential oil was not practiced at this time, as most of the perfumed oils were prepared by steeping aromatic flowers, woods and leaves in ordinary sesamum oil until it became impregnated with the scent. The art of distillation was discovered by the Arabs, and one of the first essential oils, namely, otto of roses, as we shall see later, was brought from Persia.

Storax is called in Hindustani silaras, and in Arabic miah. "It is the gum of a tree that grows in Turkey. the kind which is clear is miah-i-sailah (liquid); the other kind, miah-i-yabisah (dry). The best is that which spontaneously flows out of the trunk: it is yellowish." Here is described the balsamic resin known as Oriental storax, derived from *Liquidambar orientalis*, a tree forming forests in the south-western part of Asia Minor. It is remarkable how ancient is the use of storax and how widely it is commercially distributed; its export to India by way of the Red Sea in the first century

is authenticated by the author of the Periplus of the Erythrean Sea. Between 300 and 800 cwt. are imported annually in Bombay, and a large quantity re-shipped to China. It enjoys a wide reputation as medicine, a perfume, and incense.

Kalanbak, or calambic, is said to be the wood of a tree brought from Zirbad, on the east coast of Sumatra. It is heavy and full of veins, and when powdered it has a greyish color. It is used for compound perfumes, and rosaries are made of it. Kalanbak is one of the names for the aloe wood of Malaya, and is a fragrant wood probably derived from *Aquilaria malaccensis*.

The malagir is a tree resembling the previous one, only that the wood is lighter and not veined. When reduced to powder it has a light reddish color.

Luban, or frankincense, is gum benzoin obtained from trees growing in Sumatra, Java, and Siam. Benzoin is first mentioned by the Arabian traveller Ibn Batuta, who visited Sumatra between 1325 and 1349. He calls it Luban Javi, or Java Luban, Java being a general term among the Arabs and Persians for the Eastern Archipelago. Mir Muhamad Husain must have been well acquainted with it, as it was in common use in India before his time. Barbosa also, when visiting Calicut in 1511, found *Benzui* one of the most valuable items of export. When exposed to the fire luban evaporates like camphor and should leave very little earthy residue. As an incense it is much used by all classes even to the present day, the imports into Bombay averaging 6,000 cwt. per annum.

One of the most remarkable of all the perfumes of the Moghul Court was that called Azfar-uttib, or "scented finger nails." The origin of this substance has for many years given rise to great speculation, so that as the description in the *Ain* is given with some apparent knowledge of the subject, it is reproduced according to Blochmann's translation. "Azfar-uttib, or scented finger nails, are called in Hindustani nak'h, and in Persian nakhun-i-boya. It is the house of an animal, like a shell of two parts. They have a good smell as the animal feeds on sumbuls, and are found in the large rivers of Hindustan, Bacrah, and Bahrain, the latter being considered the best. They are also found in the Red Sea, and many prefer them to other kinds. They warm them in butter; others expose them afterwards to the fire, pound them, and mix them with other perfumes." There seems to be no doubt that the substance referred to is the Onycha of the ancients, and consists of the operculi of certain univalve molluscs. The operculum is a horny substance found in certain shell fish, and is used as a shield to close the orifice of the shell. Some specimens are about 1½ inches long and one inch broad, and about 1-20 inch thick, and have attached to the inner surface a piece of the dried flesh of the animal. The odor is said to be fishy and disagreeable and recalls that of castoreum, and in olden time required purifying by means of soap of Carsina and wine of Cyprus. The Chief Rabbi, Dr. H. Adler, states that Onycha was a constituent of the incense used by the Jews prior to the destruction of the second temple. The Hebrew name Shéchéleth is in all probability derived from a root signifying "to peel off," on account of its resemblance to a human nail. Scented nails are still used for fumigating purposes, and they form an article of commerce at the ports of the Red Sea and the Persian Gulf.

Rose water prepared from the Gulab or Gul-i-sarkh (*Rosa damascena*) was a favorite perfume in the Moghul Court, and is extensively used throughout India. Persian settlers in former times introduced the bowers and the distilled water into the country, and a considerable quantity of the latter is annually imported from Persia, where whole fields of roses are cultivated near Basra for the purpose of making the water. Besides being used as a perfume, rose water is used by Muhammaedans and Parsis as a domestic remedy in almost every kind of ailment. Gulab-ka-attar, or otto of roses, is said to have been first discovered in India in 1612 by Nur-i-Jehan Begum. Dr. Ainslie quotes the story from M. Langles in his "Recherches sur la decouverte de l'Essence de Rose." On the occasion of her marriage with the Emperor Jehangir, the Queen is said to have observed a scum upon the surface of the rose water with which the canals in the gardens of the palace had been filled, and ordering it to be collected, found that it had a delicious fragrance. This fashionable lady, combining the graces of an amiable wife, gave the name Atr-i-Jehángiri to this essence. Rose water and otto of roses are manufactured in Bengal and the Punjab, but not in sufficient quantity to supply the Indian market. Rose water to the extent of 20,000 to 30,000 gallons is annually imported into Bombay from the Persion Gulf. Two qualities are met with, Yak-atishi (once distilled), and Du-atishi (twice distilled). The value is Rs. 4 to Rs. 9 per carboy of 20 lbs. The otto of roses is imported from Persia and Turkey, and a small quantity is made at Ghazipur. The value is Rs. 50 to Rs. 90 per ounce, or Rs. 16 per tola, an amount which is calculated to be yielded by one hundred pounds of rose petals or one hundred thousand roses.

Distilled water, named *arag* in the *Ain-i-Akbari*, were prepared from other flowers, such as the orange and jasmine. One of some importance was the essence of Baid-mishk, made from the flowers of the broad-leaved willow (*Salix Saprea*) growing in Persia. Bernier narrates the visit of a Persian Ambassador to the court of Aurungzeb, who brought boxes containing excellent rose water, and another distilled water called *beid mekh*, "a cordial held in the highest estimation." It is used medicinally as well as a perfume by the upper classes of Muhammadans, its virtue being enhanced by the con-

sideration that in Persia and China the tree is regarded as symbolic of immortality. Dr. Aitchison in his travels in West Afghanistan and North-East Persia found the tree being cultivated at Herat for the scent distilled from its flowers. At the time of Akbar the price of the water was four times higher than that of rose water.

A peculiar perfume, the use of which is now apparently obsolete, is that known in Hindustani as Charela, and called by the Arabs Ushnah or "rock seab." This is a kind of lichen of the *Parmelia* species which grows on oak and pine. In Persia it grows upon oak, cypress, and other trees. That which is lightest in color is preferred, and it should have a sweet and agreeable odor. This was used by Akbar in preparing an incense called "Ruhafza," composed of aloe wood, sandal, landan, iksir, luban, dhub, violet root and ushnah. The mucilaginous lichen had the property of combining with the other ingredients and retaining the various aromas, until the incense was required for the censor. The burning of ruhafza is said to have produced a delightful fragrance in the palace.

Chhar or Sumbul-uttib is the root of *Nardostachys jatamansi*.. Arabic and Persian writers describe it under the name of Sumbul-i-Hindi, or "Indian spike," to distinguish it from Sumbul-i-Rumi or Ikliti (*Valeriana celtica*). the root of which is used in Egypt and Turkey as a perfume. Sumbul-uttib resembles the tail of the sable in shape and the long black hairs that cover it. From the law of signatures the popular opinion prevails that preparations of the root cause the growth and blackness of the hair. It is used in the present day with these expectations by men and women throughout India. Akbar employed it as an ingredient in "Opatnah," or scented soap, a preparation devoid of alkali and oil, and quite different to soap of the present day.

Motha or Suad, another ingredient of the scented soap is the root of *Cyperus rotundus*. It is a sweet-smelling root, round, black and hard. Arabian and Persian physicians describe the drug. In former times the best kind came from Kuta in Chaldea. The Indian kind, called Nagarmotha in the Central Provinces, is considered inferior. Heroditus notices it as an aromatic plant used by the Scythians for embalming the dead.

In the recipe for "Abir Izkhir," of the many perfumed powders used for marking the body during the worship and as a cosmetic, we are introduced to the grass oils of India. The well-known Khaskhas grass is the odorous root of the *Andropogon muricatus*.. This is a kind of Izkhir called Izkhir-i-Jami, and by Persians as Bikh-i-Wala. The Sanskrit names Sugandhi Nulaka and Sita Mulaka mean "having sweet-smelling root," and "having cool roots." It is used chiefly in this country for making tatties, which when well watered keep the approaches to the houses agreeably cool. In Europe the plant is distilled, and the essential oil is the origin of such favorite perfumes as "Mousseline des Indes," "Maréchal," and "Bouquet du Roi."

Rusa grass is known in the vernacular as sugandeh, and botanically as *Andropogon schoenanthus*. Mir Muhammad Husain gives rus as an Indian name for izkhir. The author of "Tuhfat-el-Muminin," mentions a distilled water prepared from izkhir, and also an oil made by macerating the grass in sweet oil exposed to the sun; it is therefore probable that in his time (1669) the essential oil was not made from this plant. The industry probably commenced in the 18th century whilst Khandesh was in a flourishing condition under Muhammadan rulers. There is another interesting fact relating to rusa grass. It was first brought to the notice of Europeans by General Claude Martin, whose name is perpetuated in two large schools—one in Calcutta, the other in Lucknow. General Martin collected the seeds in the Balaghat during the war with Tippu Sultan, and cultivated the plant in Lucknow, whence he sent seeds to Dr. Roxburgh in Calcutta. Two kinds of grass are distinguished by the oil distillers of Khandesh, *Motiya* when the inflorescence is young and of a bluish-white color, and *Sonfiya* after it has ripened and become red. The Motiya oil is considered to have a more delicate odor, and is the source of a popular perfume now sold in Calcutta.

The Izkhir of the Arabs, used by Akbar in the preparation of the Abir, is, according to Dr. Dymock, *Andropogon laniger*, a grass found in Northern India, Tibet, Arabia, and North Africa. The plant was known as *Juncus odoratus* to the Romans who prepared a perfume from it. The meaning of the Arabic names are "Mecca grass," "the Arabs' perfume," and "Mamun's toothpick." Akbar used it in the preparation of Ghasal, a liquid soap, combined with sandalwood, musk, camphor, and otto of aloe wood. It is interesting to notice in this connection that in Arabia, under the name of Ghusal, the powdered grass is still used as a perfume for the bath.

We have now nearly exhausted the list of Moghul perfumes, except a few of minor importance, which may be disposed of in a few words, and a few which on account of the vacillating nomenclature of the Arabians and Persians must be omitted for want of identity.

Musk from China and Bhutan was a valuable ingredient in perfumed powders (Abirs), scented soap and incense. Violet root or orris root was supplied from Persia and Kashmir in some abundance; it was the sweet costus of the Arabs, derived from iris or issa, which had flowers of varied colors like the rainbow. "Dhup" from Kashmir was the root of a *Jurinea*, which is still exported from the Himalayas, and is offered to Rajahs and burnt at shrines. Zedoray or zeumbad was a cosmetic, and called the camphor root of the Arabians. Barbosa speaks of zerubad as an article of trade in Canna-

nore in 1516, and it is now obtained from Ceylon and Chittagong. Sugandh gugala, one of the bdellium gums or frankincense, said by Abul Fazl to be collected from a plant very common in India, was probably the gum-resin of *Boswellia serrata*. And, finally, the Pachak leaves no doubt from an odoriferous labiate plant, which is known in modern times as Patchouli.

On reviewing this list of perfumes, used during the reign of the Great Moghul at the end of the 16th century, we have some indication of the extent of the trade routes of the country. Persia supplied many of the materials, not only from within her own borders, but also because that country afforded a caravan route for regions beyond. The Red Sea ports sent spices from Arabia, Egypt and Ethiopia. Patna was a large emporium in the kingdom of Bengal for despatching to Delhi products received from Bhutan, Tibet and Assam. Goa imported goods from the Portuguese possessions on the Mozambique coast, and the Dutch in Surat supplied second-hand articles collected in Batavia from the Malayan Islands and China. In addition to the perfumes imported from foreign countries, Akbar employed the essences of many indigenous flowers, the beauty and fragrance of which were sung by Hindu poets long before the Moghul rule.

We may be inclined to unjustly criticise the Emperor Akbar for placing so much importance upon the preparation and use of perfumes. Some are apt to consider substances of this nature merely as an adjunct to a lady's boudoir, and as articles of luxury, but in former times they had a much more extensive application. In the absence of soap and toilet requisites which we enjoy, several of the perfumes were the chief detergents and emollients necessary for personal sanitation. When our modern disinfectants, antiseptics, and deodorisers were not available, perfumes and incenses were essential for public health. The reason why so many of the perfumes were administered as medicine was that they were considered to act both internally and externally as preventives against contagion. There were certain beautiful flowers which were termed by Sanskrit writers Anganapriya, or "dear to women," but Akbar, in recording the description and value of perfumes from all parts of the world, and in combining them in the best manner for purposes of the bath or the censor, not only surrounded himself with exhilarating and refreshing odors, but he had at heart the interests of his court and people.—From the Calcutta Review, October, 1904.

Negative To Business.

A piece of steel placed between two polar magnets will be attracted by one and repelled by the other. It takes considerable effort to force the steel toward the repellent magnet. It requires almost no effort to make it approach the attracting magnet. Such is the position of the traveling man who is carrying both advertised and unadvertised goods. The advertised goods are attracted to the dealer's shelves with a power that almost takes them out of the drummer's hands. The unadvertised goods must overcome the negative repulsion of similar goods, already on the dealer's shelves, unsold because there has been no definite call for them by name. Advertised goods are the positive magnet attracting through the retailer's store. Unadvertised goods are the negative magnet repelling the drummer, making his audiences fewer and fewer, and making the net result scarcer and scarcer.—The Curtis Publishing Company.

A Trade-Mark Fable.

A fox looking at the figure of a big 6 resting up against a tree, exclaimed: "What a beautiful 6!" A crow observing the same numeral from a branch of the tree above, said: "What a perfect 9!" They contended, and each was right—but from his own point of view.

Many men differ, and do so honestly and with sincerity concerning many things that are plain and self-evident when rightly viewed.

The only necessary condition precedent is that a proper point of view be used for the purpose of investigating and deciding upon the fact.

The majority of trade-mark cases presented to the courts are of course founded upon the dishonest desire of a defendant to steal the trade-mark owner's trade, by imitating his mark or form or style of package.

But now and then there is an honest difference of opinion as to the right to use something which some one else claims the exclusive right to use, and the fable of the fox and the crow finds a ready application.

Whenever such a state of affairs comes to our professional attention, we endeavor to harmonize and reconcile the conflicting interests by taking Brother Fox up into the tree and getting Sister Crow to get off her perch and look at her number 9 from the ground. Then, when we see ourselves as others see us, there is a chance to avoid a fight. But it all depends on the point of view.—Trade-Mark Record.

PATENTS AND TRADE-MARKS.

The following list of recent Patents and Trade-Marks is reported by W. G. HENDERSON, Solicitor of American and Foreign Patents and Trade-Marks, Norris Bldg,, Washington, D. C. A copy of any of the following will be furnished by him for 15 cents.

TRADE-MARKS.

44,007. Soap. The Penna. Soap Co., Lancaster, Pa. The word-symbol "Powerine."

44,065. Toilet Soap. Frank Gaines Burke, New York, N. Y. The word "Sweetheart."

PATENTS.

781,506. Emulsifying resin soap in water. Max Erfurt, Straupitz, near Hirschberg, Germany.

AROUND THE SOAP FACTORIES.

News-items sent us by our readers will find prompt attention in this column

The Lehman Soap Co. of Parkersburg, W. Va., is just about ready to start operations in its new plant.

Tacoma, Wash, Feb. 2.—Two more damage suits against the city for $3,000 each were filed in the superior court yesterday as the result of the sewer trouble at the head of the bay. The Tacoma Soap company asks for reimbursement for damages to its property by the flooding of the sanitary sewer on East H street, a similar condition of the storm sewer on East Twenty-sixth and the obstruction of the natural waterway on East Twenty-fourth and Twenty-fifth streets at East J and K streets.

The Royal Crown Soap Company, of Winnipeg, Can., is building an addition 70 by 145 feet, three stories high.

Alfred Wright (incorporated), of Rochester, N. Y. (perfumes). Capital, $100,000. Directors—A. G. Wright, J. S. Wright and Mary D. Wright, of Rochester.

The Canadian Grocer of Montreal says: United States soap manufacturers are regarding Toronto as a favorable location for Canadian branch factories on account of the recent anti-dumping regulations by which a duty of thirty-five per cent. is levied on toilet soaps imported into Canada. Prior to the enactment of the anti-dumping clause, manufacturers in the States gave their Canadian customers a rebate to offset the duty; subsequently, the Government has confiscated the refund with the exception of five per cent., which means that the discount goes to the Department and not to the jobber.

The situation is urging United States manufacturers to action. One branch office has already been opened in Toronto, and last week a company with a capital of $15,000,000, closed a contract with an East Toronto factory. Colgate & Co., and Hudnut & Co., both of New York, are negotiating with Toronto houses and certain large laundry soap concerns are paving the way for similar action.

We are informed that the Wheeler Brothers Co., organized last month in Boston, of whom we made mention at the time, are going into the office towel supply business and not into soap making.

Anderson, Feb. 8.—Mr. L. N. Greer, who is president of three oil mills in the city and county, has under consideration the advisability of organizing a soap factory here. It is his opinion that the cotton seed oil from his mills can be utilized more profitably by using it for the manufacture of soap than in selling it to the refineries. He will make a thorough investigation of the matter, and if deemed practicable, a company will be organized.

Incorporated: Union Soap Company, registered office, 113 West street, Newark; agent in charge, Charles T. P. Kimball; capital stock, $125,000, divided into $25,000 preferred, bearing 7 per cent. non-cumulative dividend, and $100,000 common stock; incorporators, Thomas T. Clause, Zenolia Brown and S. Thomas Walkup, all of New York. The company is to make and deal in all kinds of soap.

The John P. Stanley Soap Works of New York city were slightly damaged by a fire which did great damage to adjoining buildings last month.

The Lawrence Meat Co. is the name of a new company organized in Augusta, Ga., for the purposes of conducting a retail meat market, manufacturing soap and fertilizer, and eventually conducting a general stock yard. The capital stock is $5,000.

The F. De La Claire Co. of Goshen, Ind., has purchased and consolidated with its own business the Pearce Chemical Co. of the same city.

Incorporated: The Combo Soap Company, at Brooklyn, N. Y. Capital, $10,000. Directors: Samuel Coleman, Alfred Ingram, Lola D. Ingram, Brooklyn.

W. U. Farrington of Providence, R. I., has purchased a building in which he will manufacture soap.

The Lange Soap Co. of San Antonio, Texas, has elected the following officers: B. J. Lange, president; vice-president, A. H. Piper; second vice-president, Dr. S. Jacobi; secretary and treasurer, L. E. Goldsmith; superintendent, F. Lange.

The Hoffheimer Soap Co. has purchased a site for a new factory in Chicago, on Poplar street, near Archer avenue.

The Imperial Soap Company has been organized at Waycross, Ga., with the following officers: J. E. T. Bowden, president; Geo. W. Dean, vice-president, and D. W. Lott, treasurer.

W. J. Pendray, proprietor of the British Columbia Soap Works at Victoria, sold his property for hotel purposes and is looking for a new location.

Sioux City, Iowa, Feb. 2.—A $15,000 improvement at Haskins Bros.' soap manufacturing plant will be commenced as early in the spring as possible. Several new improvements in the way of machinery have already

been bought, but will not be installed until the new building is completed.

The proposed new plant will be 60 by 60, three stories high, of brick. A new lye plant for the manufacture of caustic lye will also be installed, as will a number of improvements to the glycerine plant for the recovery of waste glycerine.

The Good Will Soap Factory at Lynn, Mass., is being enlarged by a new building 50x120 feet.

Waycross, Ga., Feb. 1.—The Imperial Soap Company, which was recently organized in this city, will begin operations here in about two weeks. The machinery of the concern is to be removed to Waycross from Atlanta and the general manager of the company, Mr. Churchill, has gone to Atlanta to see about its removal. The stockholders of the company have elected the following officers: J. E. T. Bowden, president; George W. Deen, vice-president; Mr. Churchill, secretary and general manager; D. W. Lott, treasurer.

The Beach Soap Company of Lawrence, Mass., has filed its report with the secretary of state as follows: President, I. E. Beach; treasurer and clerk, W. E. Philbrick; directors, as above, and F. A. Sylvester and W. E. Rowell. Capital stock authorized, $150,000; annual meeting, Jan. 16, 1905.

Assets—Real estate, $25,000; machinery, $37,616.98; merchandise, $50,573.11; cash and debts receivable, $28,747.05; teams, $5,740.35; total, $147,677.49.

Honolulu, Hawaii, Jan. 31.—The regular annual meeting of the Honolulu Soap Works was held in the office of Cecil Brown yesterday afternoon. No business other than the election of the following officers was transacted: Cecil Brown, president; H. von Holt, vice-president; M. P. Robinson, secretary and treasurer; R. E. Wright, auditor; John Ena, director.

The Yeargin Soap Company of Nashville, Tenn., capitalized at $10,000, filed articles of incorporation. The incorporators were A. B. Yeargin, R. J. Lyles, Sol Sawyer, Herman Zander, George W. Hight, Jo Rothfield and J. A. Lalreith. The company has taken over the Yeargin plant in North Nashville, and proposes to enlarge it and to push the sale of the soap.

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356—H. E. Wofford Co., Baltimore, Md.
357—Fox River Soap Co., Green Bay, Wis.

Big Cape, Cape City S. Works., Cape Girardeau, Mo.
Dolly Varden — A. W. Wilwid & Co., Newark, N. J.
Fawn—Cumberland (Md.) Soap Co.
Lustro—F. L. Hunt, Cincinnati, Ohio.
Merry War, Cape City S. Wks., Cape Girardeau, Mo.
Oleo—Germ. Amer. Soap Wks., New Orleans.
Power Soap — F. Martin, Columbus, Ohio.
Radium—Natl. S. Corporation, Boston.
Strajuso—Frazer Soap Co., Chicago, Ill.
Strawberry Juice Transparent Glycerine S. No. 202—Frazer Soap Co., Chicago, Ill.
Volcano—F. L. Hunt, Cincinnati, Ohio.

Angelo Olive 54
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Boro Myrr 54
Bright Home 356
Cannon 357
Clavel 54
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Don't Worry 74
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Glyco Tar 54
Golden Dawn 357
Golden Dragon 54
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Keno 106
Koko-Oil 54
Kold-Wata 54
La Batea 2
La Fiesta 54
Lazarre Castile 357
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Osmosis Soap 4
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Veg-Oil 113
Veget-ore 4
White Dawn 357
White Man's White Tar 357
Wofford's Complexion 356
Yellow Star 357

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OF THE
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Including also the Brands of Foreign Manufacture Registered as Trade-Marks in this Country.

NOTE: This list is compiled with the greatest possible care, but the publisher does not assume any responsibility other than to correct and to complete the list according to data obtained from official sources or furnished by the trade. Brands registered in the patent office as trade-marks or labels are given with the name of the party registering same. Brands or names marked * are those which were found to be used by more than one firm or the owner of which could not be ascertained. ☞ SEE THAT ALL YOUR BRANDS ARE ENTERED IN YOUR NAME.

3 Liberty Mfg. Co., Chicago.
113 Puck Manufacturing Co., Des Moines, Iowa.
344 Home Soap Co., N.Y.
345 Colnmbia Ref'g. & M'f'g Co. Ltd, New Orleans.
346 Beaumont Soap Co, Mayfield, Ky
347 Lockwood Soap Co., Kansas City, Mo.
348 Oklahoma Soap & Oil Co., Oklahoma City.
349 M. F. Windsor Soap Co, East Buffalo, N. Y.
350 Florida Cotton Oil Co., Jacksonville, Fla.
351 Brown Soap Co., Dayton, Ohio.
353 Southern Soap Co., Birmingham, Ala.
354 Zion City Soap Factory, Zion City, Ill.
355 Palami Co., Boston, Mass.

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2707 North Ave, Milwaukee.

MILWAUKEE, WIS., April 1, 1905.

VOL. XV. No. 7.8

THE AMERICAN SOAP JOURNAL AND MANUFACTURING CHEMIST.

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Address all communications to

DR. HENRY GATHMANN, Publisher,
2707 NORTH AVENUE,
MILWAUKEE, WIS., U. S. A.

The following case of spontaneous combustion may be found in a letter dated March 13, to the Buffalo Express:

Editor Buffalo Express: A great deal has been said about our city's abnormal waste of water. I am inclined to believe it is not wasted and would like to have the facts verified one way or another. Secure statistical information of the consumption of soap in all large cities and see if Buffalo does not stand at the head. We have some large soapmaking plants in our city and what has induced them to locate and expand here more than an enormous home market? I believe this question is worthy of consideration. And as cleanliness is next to godliness, what an advertisement Buffalo could send out to the world. L. C. L.

Buffalo, March 13th.

We have received several communications on the "Soap Tree coming to the United States," but cannot arrange for their publication this month. One of them is a brief despatch from Mr. Moulié, saying: "Florida has Sapindus Utilis twenty years old.—Moulié."

The following is a communication credited to Franklin G. Colby of Colby & Co., New York, by the Journal of Commerce of New York, in reference to a decision of the United States Board of General Appraisers recently in sustaining the action of the Collector of the port in assessing an importation of crude Niger oil at 25 per cent. ad valorem under the provisions of paragraph 3 of the Act of 1897, which stipulates that expressed or distilled oils shall be subject to an import duty of 25 per cent. ad valorem.

"We desire to call your attention to the ability of the Cotton Oil Trust, who openly made threats before an importation was made of crude Niger oil, that this would be assessed 25 per cent. ad valorem, or, in other words, we would be soaked by the Government if we dared to import this crude oil for a certain soap manufacturer for the purpose of making soap, as provided in paragraph 568, which openly indicates that such oils can be so imported.

"The interesting part of the threat is their ability to make it good, and the delivery of the goods in the face of positive sworn evidence that the custom in all Europe to use this particular oil for soap making in the States as imported crude. The Government had no case what-

soever; they offered a text book on oils in general, based on European information and conditions.

"If European conditions had governed the appraisers the innocent manufacturer would have been protected, as we feel the direct will of Congress intended him to be. But these trust gentlemen have enough power and friends to find ambiguous paragraphs by which they can make good such threats and punish any manufacturer who dares, while they are skyrocketing their goods, to substitute any other article of merchandise, least of all an imported article.

"We desire to call the attention of the tariff reform people to various ambiguous phrases in the tariff, which the trust utilize in a similar manner against other manufacturers who dare go past them.

"Still more strange, the same Board used as an argument to impose a further tax on soap-making material the very reason that should free us under this paragraph in the case of F. B. Vandergrift & Co."

This year's St. Patrick's Day was also the anniversary of Mr. A. MELZER'S birthday. It has been that, for more years than the American Soap Journal has any *official* knowledge of, but this is the first time that we had the fact impressed upon us in particular, and all on account of a circular printed in green ink. Mr. Melzer is three-hundred years younger than our readers would guess from his occasional articles in these columns, and he is at least twenty years younger (in body and spirits) than a man of his years is really entitled to be.

Over and above all he is a man for whom the world is better because he lives; and we say this for no other reason than that we just simply mean it.

[P. S.: When he reads this he'll kick; but that makes no difference.]

The Minneapolis "JOURNAL" recently contained a long article advocating the establishment of a large soap factory in that city. The said article has several earmarks of being "inspired," as the technical word has it; but whether the "inspiration" came simply from a contemplation of a soap factory in St. Paul, or from a more interested party, we have no means of knowing. What catches our attention is the strange blending of shrewdness as well as silliness in the article referred to, and it almost seems as if several writers colaborated, in a joint effort at reaching some desired object—whatever that object may be.

As an example of the silly portion we quote the following passage, referring to two already existing small soap factories in Minneapolis:

"It is believed that either one or the other of the existing companies would welcome another soap factory, if not in combination, as a competitor and an addition to the market.

"The combination with an existing factory would give a new concern standard brands to start with and the good will of the former business. An entirely new factory would help the established firms in the same way that additions to any line of manufacture increases the size of the market and makes Minneapolis a buying center, beyond which, because of the diversity of its products, the northwestern jobbers and retail men need not go to find a full line of any class of goods."

As an example of the "knowing" propensities of the writer of said article, the following will answer:

"The range of product at first should be limited to staple articles, such as laundry and cleaning soaps and washing powders. These should be first-class and made on honor. To reach the jobber at all the factory firm must send out advance men to push the goods. First it must agree not to sell the trade direct and then must consign orders as ordered by the country buyer. The factory must advertise and push the goods and leave the retailer to name his favorite jobber in the city. In other words the jobbers will not pay out money to introduce new brands. It is cheaper to keep on with old friends which have an established name. Soap is now sold to the Minneapolis wholesale trade at a laid-down price and every annoyance that can be assumed by the factory is taken off the shoulders of the jobber, making it easy for him to sell the goods. A new factory would have to compete with establishments which have forty years, more or less, of history, but this is not considered an insurmountable difficulty to a vigorous, pushing management.

"It is true that already the opportunities offered by Minneapolis for a soap factory have attracted the attention of experienced soap men with unlimited experience and lots of capital. The ground has been looked over closely with the result that conditions favorable for a factory are developing rapidly as the explorative work goes on. The territory is not yet "squatted" upon, however."

The "Puzzle Department" of the AMERICAN SOAP JOURNAL offers a prize of 7c (seven cents) to the first reader who will tell correctly whether the Minneapolis paper was coached by a professional promotor or by a wholesale jobber.

The public in general is being rapidly initiated into the knowledge of the unsanitary conditions arising from the miscellaneous use of the same piece of soap by a number of people, such as passengers in sleeping cars, guests of hotels, etc.

G. F. Shaver wrote recently to the Scientific American as follows:

"That the upward way to better things is fraught with stumbling and uncertainty goes without saying; but that civilization is responsible for one of the greatest of known hygienic evils, will come as a surprise to the average reader, to whom the subject has never been brought home, and who carelessly exposes himself to infection with no conception of possible danger.

"Reference is made to the practice, now so general, of placing toilet soaps in lavatories where different persons have access to and use the same cake of soap.

"Whoever thinks of cleansing a cake of soap after use, or considers that filth and disease germs may exist in the discolored ridges and slime upon its surface?

"In a public toilet room, soap, reeking with preceding contamination, is used in entire ignorance of the fact that a break in the cuticle will allow infection to be introduced into the circulation as direct and positive as vaccination.

"In these days of health boards, and enforcement of ordinances prohibiting expectoration in public places, and the expenditure of large sums for sanitary purposes, it seems strange that this most potent source of disease has received so little public notice.

"Contemplation of the actual conditions existing on every hand is appalling, and already this subject is undergoing the agitation which precedes reform. In two Eastern States bills are pending in the State legislatures seeking to make it a misdemeanor to expose toilet soap in public toilets, where it may be handled by different persons. Devices have been invented which obviate this evil by inclosing the cake of soap in such a way as to enable one to obtain sufficient for his use without handling it, and many prominent concerns are already equipped with them; but no reform ever becomes general without public sentiment being first aroused to the danger, and it is hoped that general discussion may lead to correction of this error.

"Humanity is confronted with so many ills beyond control, it would seems that one so serious, yet preventable, should disappear as soon as the danger and remedy become fully known."

Following the foregoing letter, there came another to the same paper, to the following effect:

"In the last number of the Scientific American I noticed an article by G. F. Shaver concerning disease dissemination through toilet soap, as used in public toilet rooms, etc.

"It seems quite incredible that the Americans who are so strict and scrupulous in hygienic matters, should have overlooked such a serious evil, which is so very simple to prevent. It struck me as rather strange, therefore, when I came to this country a year ago, and found to my surprise, that even in the first-class hotels the common cake of soap—going every day through a hundred different hands and so getting thoroughly impregnated with germs—seemed to enjoy its existence.

"Is there anything simpler and cleaner than the device now in use in nearly every public toilet room in most of the countries abroad? The cake of soap is a thing of the past, and its place is taken by a handy little soap-powder distributor fixed on the washbowl. This apparatus is generally made out of nickel-plated brass, having a cylindrical form; the standard size is, as far as I can recollect, about 4½ to 5 inches high, its diameter being about 1 to 1½ inches. On the top is a flat knob and in the base a small opening. By pressing the knob, the distributor will deliver through the opening a small quantity of antiseptic soap-powder, which is collected by holding one hand under the apparatus. This distributor is not only used in public toilet rooms, but can be found on the washstands in very many private houses."

HUCK GERNSBACK.

New York, March 7, 1905.

The only comment we wish to offer to the foregoing at present is the remark, that fortunately soap is a pretty good antiseptic in itself, and therefore it is less likely to disseminate infection than almost any other article used with equal carelessness.

The adulteration of tallow by means of mineral oil, though an old story, is apparently not dead yet, and is evidently perpetuated by nothing but the sheerest negligence of buyers of tallow. The latest hint of the continuance of this practice comes to us through the details of a law-suit instituted in Pittsburgh, Pa., last month.

From information at hand it appears that Attorneys Marron & McGirr, representing William Walker, Hay Walker, Jr., and Samuel C. Walker, partners doing business under the firm name of W. & H. Walker, filed an affidavit of defense to the suit of the Pittsburg provision and packing corporation, in which some rather sensational statements are made that beef tallow purchased from the plaintiff was impure and adulterated with a large percentage of mineral oil, and was entirely unfit for the manufacture of soap. The defendants charge this was done fraudulently and injured the credit and reputation of the soap manufactured by them.

It is stated that the defendant firm is engaged in the manufacture of soap in the city of Allegheny, which business was established 68 years ago by the father and uncle of the defendants under the same firm name; that they deservedly acquired a large trade in the sale of their soap, and a business reputation and credit for the same. They are obliged to use in its manufacture large quantities of tallow and other animal and vegetable fats.

The defendants aver they have been dealing with the plaintiff company since the organization of that firm

six years ago, and in the course of said dealings have supposedly bought from the company enormous quantities of tallow to be used in the manufacture of said soap; that the plaintiff company, from time to time in the course of said dealings, represented to the defendants that the tallow so sold was prime tallow, composed entirely of beef fat. That on January 26, 1905, the defendants bought from the plaintiff 100 tierces of tallow, weighing 44,136 pounds gross, or 37,516 pounds net, for the price of 5 cents per pound, upon the representation of the corporation, its officers and agents that it was composed entirely of 100 per cent. beef fat.

The defendants then allege that these representations were false and fraudulent; that the tallow was not composed of 100 per cent. beef fat, but contained an average of 5 per cent. of mineral oil obtained from petroleum, being the residue of petroleum, which was not only valueless to the defendant company in the manufacture of its soap, because it could not be saponified, but was an injury to the quality of the soap, deteriorating its efficiency and incalculably affecting its credit and reputation in the market. The defendants allege the plaintiff corporation knew well that the material was not tallow as represented, but was adulterated, inferior and injurious tallow, and that this was done by it or its agents for the purpose of defrauding the persons buying such material from the corporation.

The defendant further claims that the plaintiff is indebted to them in addition to the defense made against the claim in this case, and as set off to any claim whatever on the part of the plaintiffs, in the sum of $10,687.07, which claim arises from past purchases. The defendant firm then sets forth the various purchases of said alleged adulterated tallow since 1899 and the loss occasioned by the alleged fraud and substitution of the mineral oil, and asks a verdict accordingly.

Combinations of all kinds have their troubles regardless of nationality. Says the Chemist and Druggist of England:

"The annual meeting of the glycerin convention was held last week, and such was the discussion among its adherents that it was resolved to terminate it. The break-up of the convention is said to be due to the opposition of a well-known firm of soap manufacturers, who signified their withdrawal, and as their competition was of a character that could not be ignored, there was no help but to dissolve. The result is that the market is quite unsettled, and several firms have issued circulars showing a reduction of about £4 per ton on the double distilled s. g. 1,260 quality, but in the present state of the market it is doubtful whether these prices can be adhered to, as agents are soliciting bids.

"The fact that the convention has come to an end is a surprise to many, as there were no outward signs of disturbance in the market. No definite prices can be quoted, but £53 per ton is about the nearest value for double-distilled in 10 cwt. drums. In the present circumstances buyers prefer to look on, waiting more settled conditions."

A Chat About the Russian Question put to American Soap Manufacturers.

(GEO. A. SCHMIDT, CHICAGO.)

On the first page in the March issue of The American Soap Journal "large American Soap Works" are asked to give their opinion about the strikes prevailing in Russia and to suggest possible remedies. Although the writer does not belong to the class of "large" manufacturers addressed, yet he feels like the Editor of The American Soap Journal (as expressed in his comments on the question mentioned) that much good may result if a lively discussion will take place, so that the important subject may be presented from *various* viewpoints.

Those readers who have read the former issues of this paper *attentively* will find the same *principles* have been outlined before. (It is a peculiarity of *principles,* they come up every little while in the lives of those who follow same.)

What the Russian Soap Manufacturers need much more than a "work book" has been explained in an essay on the St. Louis Exposition, printed some months ago wherein it is said that Russians, as a rule, lack the "proper spirit." So that no mistake be made, be it remembered that the writer is an exceedingly matter of fact man, not a believer in spiritualism or hypnotism, etc., as the same is usually understood, but he has heard his employees remark quite frequently: "Why, it is just as if things in the factory were telling you all about what happened; if anything goes wrong you are sure to be around and see things which no one else would notice."

Any person who is "with heart and soul" in his work, who has given close attention to details all his life, who loves the work he does for the sake of the satisfaction he gets out of it, knows that nothing is more natural than to observe, by means of *seemingly* unimportant signs, what has happened and it is an easy matter for such practical individuals to come to conclusions what is going to happen—"like causes, like effects." Such practical, observing, well-meaning men may be classed amongst those possessed by the "proper spirit."

The deductions made by deep thinkers about the causes of the successes of the Japanese in the war now raging in Manchuria, and the failures of the Russians, should be borne in mind in industrial struggles. "Close attention to details" is the sum and substance of the many arguments made about the causes of Japanese success. As the leaders of the Japanese armies suc-

ceeded in infusing the "proper spirit" into their men, so must leaders of workers endeavor to *make their assistants comprehend and like their work,* then they will put forth their best efforts to bring their undertaking to a successful ending.

Count Tolstoi said quite recently: "Americans are very much like Russians, only the former do not realize they are slaves, while the former are just awakening to the fact and therefore are ahead of the former." Because the writer believes there is some truth in that statement, does he try to show how workmen can be made more satisfied with their work.

To cure an evil, one must recognize the cause and the cause of dissatisfaction among workers is *one sided system. Proper* system or order is an excellent thing, but when it attempts to make the human being a wheel, or only a cog in a wheel of business, strikes, and even revolutions, are unavoidable. Unless you interest the workman in the work he does, take his individuality into consideration, unless you provide such work as gives each one a chance to *make hands and brains work harmoniously,* things are sure to go wrong sooner or later. Where a person works mechanically, uses his muscles only, when the brain does no *useful* work, the mind is sure to wander and it usually finds cause for dissatisfaction. It is not an easy thing for the employer or his foreman to so arrange the work that it fits the abilities of individuals and fulfils the conditions outlined above. The person who comes nearest the model here outlined will prove to be the most successful leader of workers.

"Talk is cheap," and does not convince. Thinkers consider facts only, therefore the writer points to his *actions,* to his life's work, as an example how he advocates to conduct and arbitrate strikes. He has been "striking" himself for quite a while, that is, he declines to do work which does not even pay for material and labor, much less for the other things necessary to make *good* soaps. Others in our line of business do such work, hoping to ruin "the other fellow" and then make a profit.

A fair exchange always has been and always will be the only sound basis for permanently satisfactory business relations. Whenever one side demands more than an equivalent, the other has a perfect right, even the duty to decline, but, (and here is where a great many make a mistake) no person has the right, nor is it conducive to his health and happiness, to remain idle, *keep on working, work for your own improvement and fit yourself to be ready to render better services than ever before,* during the time you are refusing to work for less than a fair share of the profits, made by your assistance.

The services of able, conscientious workers will always be in demand, all the more so after a strike, if that strike is used, as it should be, as a period of rest and self improvement and to give the other side a chance to realize that *working together* is most profitable and satisfactory.

Strikes, conducted in the spirit above outlined, are an advantage and not a detriment, they convey most valuable lessons in the most forcible manner, at least to those able and willing to learn. Certain large manufacturers might profit by realizing that some of the strikes they condemn have far nobler aims and purposes than the "strikes" they are inaugurating against their competitors. It is often *far better to quit work* for awhile than to run after a job for the sole purpose of preventing "the other fellow" from getting it.

The losses caused through the strikes of laboring men, great as they sometimes are, remain insignificant if compared with the enormous waste of time, money and energies caused by the quiet but relentless "strikes" carried on by the trusts. Whenever they "strike" their smaller competitors, *nothing* is *gained,* no *useful* purpose is served. The result aimed at is the monopolizing of industries, the ruin of the middle class and the raising of prices. The newspapers, in discussing the "beef trust" and its methods, give so many details that we need not repeat them here. If the *workers,* among the employers as well as the employes, comprehend and follow the principles the American Soap Journal has upheld ever since its first appearance, the *schemers* amongst either class will find it impossible to use their colleagues for selfish purposes, as is so often done nowadays to the great injury of the well meaning persons on either side.

The great lessons taught by the troubles Russia is undergoing now, are blessings in disguise to all those with sufficient good common sense to profit by the experience of others. It is with great empires or republics as with industrial establishments, the "proper spirit" must rule them. If their leaders comprehend what that expression means, they will lead their men to success, if not, the opposite is sure to come sooner or later. Rather than seek the remedy in "work books" let our Russian colleagues learn to comprehend the *real, old-fashioned, American spirit,* which says "equal *chances* for all."

Niger Seed Oil for Soap Making.

The Board of General Appraisers has overruled the protest filed by Colby & Co., against the assessment on their importation of Niger seed oil of a duty of 25 per cent. ad valorem under paragraph 3. The merchandise was assessed as an expressed oil. The importers claimed free entry for the merchandise under paragraph 568, which provides for oil commonly used in soap making and fit only for such use. Evidence was produced by the government to show that the merchandise was used

in India by the poorer classes as a food, in England, France and Germany the crude or refined oil being used for illuminating and lubricating purposes. The board held that it was clear from this that the oil was fit for other uses than soap making and therefore was properly assessed.

* * *

In connection with the above item, the following letter has been received by the Oil, Paint and Drug Reporter, from which we reproduce it:

New York, March 15, 1905.

Referring to a recent case which has affected one of our clients, as a general illustration of the method used by the General Appraisers, we have come to the conclusion that it is time that the Treasury Department either issues a different set of instructions to their General Appraisers or a new tariff bill eliminating all ambiguous phraseology, so that the General Appraisers and government officials cannot use these ambiguous phrases in the tariff to carry out their private or arbitrary opinions or assist any combination or corporation, one against another, by their improper use.

The recent decision of the Board of General Appraisers, in an importation of niger oil, very forcibly, we think, illustrates our meaning. Here is an oil that is only made in a crude state for soap making purposes. It is sold cheaper than peanut oil, cocoanut and cottonseed oils for the soap maker, is only known in Europe as a "soap making" oil in the crude state in which it is sold, and practically very little is refined, as peanut oil and cottonseed oil give much better results for refining. Commercially, both in practice and in name, it is only known as a soap making oil. At the same time, we are importing large quantities of peanut oil in the crude state for the same purpose, but at a higher valuation, when speculators were advancing prices beyond reasonable limits.

Every effort of the government seems to be bent upon the straining at gnats and the swallowing of camels by the drove by their method of rendering decisions on every new article of commerce imported into the United states,* and against the advancement of American manufacturers' interests, the appraisers apparently carefully studying the tastes of the starving people of India and Abyssinia, and they might as well have included the peasants of Southern Russia, who are at times compelled to eat the grass, by reducing it to pulp, as in the case of the millet grass with oleaginous seed in it to preserve life. This is an unjustifiable position, which hampers our own manufacturers (by using any ambiguous phrases in the tariff bill against direct phrases as paragraph 568, which says: "Oils such as commonly used in soap making to be free of duty") that might directly advance American industries with the use of foreign product.

With this niger oil case, the Board of General Appraisers thought that the edible tastes of the Abyssinians and the starving Indians was sufficient to impose 25 per cent. duty upon the American manufacturer. They also made a distinction between Niger and other oils, whereas the same Abyssinians and starving East Indians would have gladly eaten cocoanut oil and peanut oil, of superior quality, which Congress very plainly declares shall come in free of duty.

Their microscopic information prevents them from seeing anything but the hidden methods of the general merchants or importers to injure the government, although paragraphs are inserted plainly, indicating the government's wishes. They use a telescope 6,000 miles long to find reasons, all printed in a book which may have applied to the refined oil, while they act on the crude oil.

It does not seem to occur to them that they render decisions the same day, both contradicting each other, and the reasons they give for their decisions being absolutely contradictory, as on soap making material entered by F. B. Vandergrift & Co.

We think more intelligence and more common sense, using general trade conditions of the world as their guide, rather than text books which are of no value, except when they wish to twist them to please their varied fancies, so that a merchant can never tell what duty he must pay and when he is safe in importing any merchandise that these gentlemen can apply Abyssinian or East Indian conditions to as ruling American conditions. Certainly we have passed the age when such unjust and discriminating methods should any longer be tolerated by an intelligent and honest nation.

The recent election was on such a line that such arbitrary power with the ability to hold up importations for two years, or aid speculative combinations, until the court decisions are reached, suggests more common sense, broader and more dignified views to uphold the dignity of the country, and the manufacturers who are interested in international commerce by our own government employes.

We have no hesitancy in saying that President Roosevelt's personal decisions on any of these cases that we have used as an example would be eminently satisfactory to the American merchants and manufacturers as a whole, as we think very many decisions are directly contrary to his enlightened spirit of the times and the gov-

*They consider importers and manufacturers wanting crude, low-price merchandise on a par with criminals, whose sole purpose is to defraud the government, and their sole duty to advance cost values on the manufacturers.

ernment's attitude for seeing fair play and justice to all interests, and not the manufacturer's duty to prove the government wrong.

COLBY & COMPANY,
Franklin G. Colby, President.

Adulteration of Naval Stores.

Members of the trade here are welcoming the remedial measures adopted by the State of Georgia and by the Savannah Board of Trade, by which the fraudulent false packing of rosin is practically eliminated. The practice in false packing of rosins has been carried on to such an extent as to bring out numerous complaints from consumers in general, and has caused great inconveniences and long litigations in settling claims. The State law prohibiting the adulteration of spirits of turpentine in Georgia has met with such good results that the practice of adulteration there has been checked. In order to insure strict purity of rosin, resolutions have been recently adopted and passed by the Savannah Board of Trade, whereby the inspectors must inspect bottom heads of five per cent. of all grades instead of certain grades, as stated heretofore, in order to check false packing. In case the inspectors should discover false packing they are not to cease examination when five per cent. of the goods have been inspected, but are to examine each and every barrel in the lot, which insures the buyer against receiving any barrels of adulterated goods which might otherwise escape inspection. It is pointed out, however, that there is still lacking an important point in the new provisions, and that is the packing of mixed rosin, which causes endless annoyance and loss to the factor and producer. When rosin is produced there is the usual waste at the stills, caused by an overflow of the packages, and leakage from the barrels, etc. This waste is usually collected by the producer, placed in barrels and added to it a quantity of new and hot rosin. The latter, it is intimated, melts the scrap and converts the contents of such a barrel to a uniform grade, which, however, in many cases, does not come out uniform, and where scrap is detected it is removed and good rosin substituted. In cases where mixed packing has come under the notice of consumers, a claim was made and after passing through the usual number of hands reaches the shipper, who is obliged to stand for the loss. It is hoped that the abuses still pending will be rectified in the near future, and thereby correct the evils with which the trade has had to contend with for a number of years. The adulteration of spirits of turpentine in New York is being practiced on a wholesale scale, and it is hoped that the naval stores interests here, who are making efforts to have a law enacted in this State to prevent the evils of adulteration, will meet with success.—Oil, Paint and Drug Rep.

Massage Soaps.

Massage as a treatment for local disorders is of great antiquity, and of late years it has been scientifically worked out, and affords a much used means, not only for curing but of guarding against many ailments, says the "Seifenfabrikant." Soap is naturally a great aid to massage by its softening and pore-opening action, independently of its cleansing properties. It has been discovered that certain soaps are far more suitable for massage than others, and some account of the best soaps for the purpose will not be unacceptable. The properties required in a massage soap are perfect neutrality, great lathering power, and an agreeable but not too pronounced a scent. Milled soaps answer well, as regards neutrality, but are deficient in lathering power as a rule. Hence a ground soap containing plenty of cocoanut oil must be used. Another advantage of milled soaps is that drugs can be added to them, during the milling process. These drugs then retain their virtues, which they would not do, if they had to be added to the soap-materials during the saponification. The ground soap for milling should be made with from 20 to 30 per cent. of cocoanut oil and will then lather sufficiently. Among the drugs just alluded to pine needle oil is particularly useful for massage as it has a very stimulating effect upon the circulation. An excellent recipe for a massage soap is: Special cocoanut oil ground soap, 2,500 lbs.; lanoline, 50 lbs.; pine needle oil, 20 lbs.; spike oil, 3 lbs. Other massage soaps are made from olive oil ground soap, to which in special cases, as in the treatment of certain rheumatic affections, ichthyol is added. Massage soaps are always wanted white, so that cochin cocoanut oil should be preferred to other kinds. Two other recipes for massage soaps are as folows: I. Cocoanut oil, 500 lbs.; tallow, 500 lbs.; caustic soda lye, 37° B., 500 lbs.; pine needle oil, 7 lbs.; true wintergreen oil, 2 lbs. II. Cocoanut oil, 1,000 lbs.; caustic soda lye, 37° B., 500 lbs.; pine needle oil, 4 lbs.; artificial bitter almond oil, 2 lbs. There is also a "massage cream" which differs from the ordinary massage soaps in being made with a soft potash soap as a ground soap. The oils, etc., incorporated with the ground mass are exactly the same in the "cream" as in the soap.

The Determination of Rosin in Soaps.

BY ROBERT E. DIVINE.

The accurate quantitative determination of rosin is still an unsolved problem. Of the two surviving methods for determining rosin in admixture with fatty acids Twitchell's (Jour. Analyt. and Applied Chem. 1891) is based on converting the fatty acids into neutral ethyl esters and subsequently either determining rosin by titration with standard alkali or after neutralizing rosin

acids and separating insoluble fatty esters from aqueous rosin soap, decomposing latter with mineral acid and collecting and weighing the rosin by itself. Gladding's method depends upon the solubility and insolubility respectively of the silver salts of rosin and fatty acids in ether. Both these methods have been exhaustively examined by Lewkowitch (Jour. Soc. Chem. Ind. 1893, p. 503 et seq.) and the failure of both to give accurate results is well known to chemists who are familiar with soap analysis.

The Twitchell method, however, is the best we possess at the present time. It is the writer's experience that when carefully carried out it does afford results which agree fairly well in duplicate and therefore may form a basis for a comparison of distinct samples with mixtures of known composition. It is the purpose of the writer to offer in this paper a modification which it is hoped will be of some value in enabling the operator to conveniently carry out at the same time and under the same conditions a considerable number of tests. It was found by experiment that esterification of fatty acids takes place rapidly with little evolution of heat and to the highest practical degree, in absolute alcohol half saturated with HCl gas, in presence of zinc chloride. If 3 grams of fatty acids from a good toilet soap base are dissolved in 25 c. c. absolute alcohol in a stoppered flask, and 25 c. c. absolute alcohol saturated with HCl added, there is an evolution of heat due to mixing the saturated and unsaturated alcohol and the esters soon collect in oily drops and float on the surface of the liquid. If after standing a little time about 10 grams of dry granular zinc chloride be added, esterification soon proceeds to a practical completion. It is never actually complete, but is as nearly so under these conditions as it is practical to attain while the components of the reaction remain in contact with each other. If the alcoholic solution is boiled with water until alcohol is removed, cooled, the esters dissolved in ether and the ethereal solution washed with water in a separating funnel until free from HCl, ether distilled off and esters dissolved in neutral alcohol and titrated with N/10 KOH, there will be required from 0.7 c. c. to 2 c. c. This calculated as rosin, with an equivalent of .346, indicates 0.0242 gram, and 0.0692 gram, respectively, or 0.81 per cent. to 2.31 per cent. rosin on a 3-gram sample. This is not more than the amount of acid that usually escapes esterification when the process is carried out in the ordinary way by saturating with HCl gas the solution of fatty acids in absolute alcohol.

If one is provided with a saturated solution of HCl gas in absolute alcohol a number of samples may be treated simultaneously and they then need only occasional attention until the washing operation is reached.

The test may be carried out in this way:

Three grams of dry fatty acids to be tested for rosin content are weighed into a dry stoppered 100 c. c. flask, dissolved in 25 c. c. absolute alcohol, the flask placed in cold water, 25 c. c. saturated alcoholic HCl added, allowed to stand 20 minutes, 10 grams dry granular zinc chloride added and mixed by swirling flask, cooled and allowed to stand twenty minutes longer, contents of flask now poured into about 200 c. c. water in a 500 c. c. beaker, flask rinsed with weak alcohol, a small stick of zinc added, beaker covered and heated on wire gauze until alcohol is removed, cooled, esters and rosin acids transferred to a separating funnel with ether, ethereal layer washed with water until free from HCl, ether distilled off, esters and rosin acids dissolved in neutral alcohol and titrated with N/10 KOH and phenolpthalein. The zinc causes a brisk evolution of hydrogen and prevents bumping of the liquid while heating to drive off alcohol. The volume of water should not decrease below 100 c. c.

The effect of incomplete esterification is to indicate high results. The combining equivalent of rosin varies between rather wide limits and as pointed out by Lewkowitsch (loc. cit.) the action of HCl on rosin appears to produce some alteration in it which causes erroneous results. Some of Lewkowitsch's experiments on rosins the combining equivalents of which he had previously determined gave him results in some cases above, in others below the truth. If, however, several tests be carried out simultaneously by the modified method fairly agreeing results may be obtained.

On some mixtures containing approximately equal quantities of rosin and fatty acids, the writer obtained 99.25 per cent. and 99.42 per cent. of total rosin taken. Leaving out zinc chloride 99.3 per cent. and 100.6 per cent. were obtained and on another mixture containing about 40 per cent. rosin, 100.7 per cent. and 101.4 per cent. of total rosin taken were obtained. In a number of experiments on esterification of fatty acids alone, better results were obtained by using zinc chloride.

Absolute alcohol may be conveniently saturated with HCl by evolving the gas in a two-liter round-bottom flask, containing about one-sixth its capacity of coarse granular salt such as is ordinarily used in the soap kettle, placed on a sand bath, provided with a separating funnel for introducing 60 degrees Be. sulphuric acid. The gas is washed in strong sulphuric acid and the alcohol is contained in a one-liter Dreschell wash bottle (allowing plenty of room for in crease of volume) setting in a vessel through which a stream of cold water enters near the bottom and passes out near the top. After cautiously adding the sulphuric a very small flame may be used to warm the flask. Too rapid heating will cause the contents to foam over. The gas should be evolved at such a rate that the bubbles may be counted.

The gas is absorbed and much heat evolved. The saturated solution should be kept in a strong bottle in a cool place and caution always used in removing the stopper.—Chemical Engineer.

Malt Extract Soap.

As is well known, it has hitherto been absolutely impossible to prepare a perfect neutral soap on a commercial scale. The soap must either contain an excess of alkali, which makes it injurious to a tender skin or an excess of fat. In this latter case the soap is greasy, will not clean or make a lather, and rapidly turns rancid when kept, even when an excess of fat is used during saponification. The only other way to get a super fatted soap is to add fat to the finished soap, which then not only acquires all the disadvantages above enumerated as incidental to a soap containing an excess of fat, but remains alkaline in many cases through a want of any reaction between the fat added and the free alkali present in the soap at the time.

It has recently been discovered, however, that a really neutral soap can be prepared with the use of extract of malt. The extract is added to the finished soap, and while in no way detracting from the detergent and lathering properties, imparts no trace of greasiness. It is obvious that the malt extract would be destroyed if put into the boiling soap during the process of manufacture. It is milled up with the finished soap, from 5 to 10 lbs. going to 100 lbs. of soap. The malt soap is very soothing and mild to the most sensitive skin.

It is said that the malt extract has a specific curative effect upon skins affected by syphilitic diseases, but this remains to be proved. The fact remains that the new soap fills a want hitherto unsatisfied. A moderate excess of malt extract over and above the quantity necessary to neutralize the free alkali present does no harm, but should of course be avoided on the score of expense. —National Provisioner.

The New Trade-Mark Law of April 1, 1905.

AN ACT

To authorize the registration of trade-marks used in commerce with foreign nations or among the several states or with Indian tribes, and to protect the same.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

That the owner of a trade-mark used in commerce with foreign nations, or among the several States, or with Indian tribes, provided such owner shall be domiciled within the territory of the United States, or resides in or is located in any foreign country which, by treaty, convention, or law, affords similar privileges to the citizens of the United States, may obtain registration for such trade-mark by complying with the following requirements: First, by filing in the Patent Office an application therefor, in writing, addressed to the Commissioner of Patents, signed by the applicant, specifying his name, domicile, location, and citizenship; the class of merchandise and the particular description of goods comprised in such class to which the trade-mark is appropriated; a description of the trade-mark itself, and a statement of the mode in which the same is applied and affixed to goods, and the length of time during which the trade-mark has been used. With this statement shall be filed a drawing of the trademark, signed by the applicant, or his attorney and such number of specimens of the trade-mark, as actually used, as may be required by the Commissioner of Patents. Second, by paying into the Treasury of the United States the sum of ten dollars, and otherwise complying with the requirements of this Act and such regulations as may be prescribed by the Commissioner of Patents.

Sec. 2. That the application prescribed in the foregoing section, in order to create any right whatever in favor of the party filing it, must be accompanied by a written declaration verified by the applicant, or by a member of the firm or an officer of the corporation or association applying, to the effect that the applicant believes himself or the firm, corporation, or association in whose behalf he makes the application to be the owner of the trade-mark sought to be registered, and that no other person, firm, corporation, or association, to the best of the applicant's knowledge and belief, has the right to such use, either in the identical form or in such near resemblance thereto as might be calculated to deceive; that such trade-mark is used in commerce among the several States, or with foreign nations, or with Indian tribes, and that the description and drawing presented, truly represent the trade-mark sought to be registered. If the applicant resides or is located in a foreign country, the statement required shall, in addition to the foregoing, set forth that the trade-mark has been registered by the applicant, or that an application for the registration thereof has been filed by him in the foreign country in which he resides or is located, and shall give the date of such registration, or the application therefor, as the case may be, except that in the application in such cases it shall not be necessary to state that the mark has been used in commerce with the United States or among the States thereof. The verification required by this section may be made before any person within the United States authorized by law to administer oaths, or, when the applicant resides in a foreign country, before any minister, chargé d'affaires, consul, or commercial agent holding commission under

the Government of the United States, or before any notary public, judge, or magistrate having an official seal and authorized to administer oaths in the foreign country in which the applicant may be, whose authority shall be proved by a certificate of a diplomatic or consular officer of the United States.

Sec. 3. That every applicant for registration of a trade-mark, or for renewal of registration of a trade-mark, who is not domiciled within the United States, shall, before the issuance of the certificate of registration, as hereinafter provided for, designate, by a notice in writing, filed in the Patent Office, some person residing within the United States on whom process or notice of proceedings affecting the right of ownership of the trade-mark of which such applicant may claim to be the owner, brought under the provisions of this Act or under other laws of the United States may be served, with the same force and effect as if served upon the applicant or registrant in person. For the purpose of this Act it shall be deemed sufficient to serve such notice upon such applicant, registrant or representative by leaving a copy of such process or notice addressed to him at the last address of which the Commissioner of Patents has been notified.

Sec. 4. That an application for registration of a trade-mark filed in this country by any person who has previously regularly filed in any foreign country which, by treaty, convention, or law, affords similar privileges to citizens of the United States an application for registration of the same trade-mark shall be accorded the same force and effect as would be accorded to the same application if filed in this country on the date on which application for registration of the same trade-mark was first filed in such foreign country: *Provided,* That such application is filed in this country within four months from the date on which the application was first filed in such foreign country: *And provided,* That certificate of registration shall not be issued for any mark for registration of which application has been filed for an applicant located in a foreign country, until such mark has been actually registered by the applicant in the country in which he is located.

Sec. 5. That no mark by which the goods of the owner of the mark may be distinguished from other goods of the same class shall be refused as a trade-mark on account of the nature of such mark unless such mark—

(a) Consists of or comprises immoral or scandalous matter;

(b) Consists of or comprises the flag or coat of arms or other insignia of the United States, or any simulation thereof, or of any State or municipality, or of any foreign nation; *Provided,* That trade-marks which are identical with a registered or known trade-mark owned and in use by another, and appropriated to merchandise of the same descriptive properties, or which so nearly resemble a registered or known trade-mark owned and in use by another, and appropriated to merchandise of the same descriptive properties, as to be likely to cause confusion or mistake in the mind of the public, or to deceive purchasers, shall not be registered: *Provided,* That no mark which consists merely in the name of an individual, firm, corporation, or association, not written, printed, impressed, or woven in some particular or distinctive manner or in association with a portrait of the individual, or merely in words or devices which the descriptive of the goods with which they are used, or of the character or quality of such goods, or merely a geographical name or term, shall be registered under the terms of this Act; *Provided further,* That no portrait of a living individual may be registered as a trade-mark, except by the consent of such individual, evidenced by an instrument in writing: *And provided further,* That nothing herein shall prevent the registration of any mark used by the applicant or his predecessors, or by those from whom title to the mark is derived, in commerce with foreign nations or among the several States, or with Indian tribes, which was in actual and exclusive use as a trade-mark of the applicant or his predecessors from whom he derived title for ten years next preceding the passage of this Act.

Sec. 6. That on the filing of an application for registration of a trade-mark which complies with the requirements of this Act, and the payment of the fees herein provided for, the Commissioner of Patents shall cause an examination thereof to be made; and if on such examination it shall appear that the applicant is entitled to have his trade-mark registered under the provisions of this Act, the Commissioner shall cause the mark to be published at least once in the Official Gazette of the Patent Office. Any person who believes he would be damaged by the registration of a mark may oppose the same by filing notice of opposition, stating the grounds therefor, in the Patent Office within thirty days after the publication of the mark sought to be registered, which said notice of opposition shall be verified by the person filing the same before one of the officers mentioned in section two of this Act. If no notice of opposition is filed within said time the Commissioner shall issue a certificate of registration therefor, as hereinafter provided for. If on examination an application is refused, the Commissioner shall notify the applicant, giving him his reasons therefor.

Sec. 7. That in all cases where notice of opposition has been filed, the Commissioner of Patents shall notify the applicant thereof and the grounds therefor.

Whenever application is made for the registration of a trade-mark which is substantially identical with a

trade-mark appropriated to goods of the same descriptive properties, for which a certificate of registration has been previously issued to another, or for registration of which another has previously made application, or which so nearly resembles such trade-mark, or a known trade-mark owned and used by another, as, in the opinion of the Commissioner to be likely to be mistaken therefor by the public, he may declare that an interference exists as to such trade-mark, and in every case of interference or opposition to registration he shall direct the examiner in charge of interferences to determine the question of the right of registration to such trade-mark, and of the sufficiency of objections to registration, in such manner and upon such notice to those interested as the Commissioner may by rules prescribe.

The Commissioner may refuse to register the mark against the registration of which objection is filed, or may refuse to register both of two interfering marks, or may register the mark, as a trade-mark, for the person first to adopt and use the mark, if otherwise entitled to register the same, unless an appeal is taken as hereinafter provided for from his decision, by a party interested in the proceeding, within such time (not less than twenty days) as the Commissioner may prescribe.

Sec. 8. That every applicant for the registration of a trade-mark, or for the renewal of the registration of a trade-mark, which application is refused, or a party to an interference against whom a decision has been rendered, or a party who has filed a notice of opposition as to a trade-mark, may appeal from the decision of the examiner in charge of trade-marks, or the examiner in charge of interferences, as the case may be, to the Commissioner in person, having once paid the fee for such appeal.

Sec. 9. That if an applicant for registration of a trade-mark or a party to an interference as to a trade-mark, or a party who has filed opposition to the registration of a trade-mark, or party to an application for the cancellation of the registration of a trade-mark, is dissatisfied with the decision of the Commissioner of Patents, he may appeal to the court of appeals of the District of Columbia, on complying with the conditions required in case of an appeal from the decision of the Commissioner by an applicant for patent, or a party to an interference as to an invention, and the same rules of practice and procedure shall govern in every stage of such proceedings, as far as the same may be applicable.

Sec. 10. That every registered trade-mark and every mark for the registration of which application has been made, together with the application for registration of the same, shall be assignable in connection with the good will of the business in which the mark is used. Such assignment must be by an instrument in writing and duly acknowledged according to the laws of the country or State in which the same is executed; any such assignment shall be void as against any subsequent purchaser for a valuable consideration, without notice, unless it is recorded in the Patent Office within three months from date thereof. The Commissioner shall keep a record of such assignments.

Sec. 11. That certificates of registration of trade-marks shall be issued in the name of the United States of America, under the seal of the Patent Office, and shall be signed by the Commissioner of Patents, and a record thereof, together with printed copies of the drawing and statement of the applicant, shall be kept in books for that purpose. The certificate shall state the date on which the application for registration was received in the Patent Office. Certificates of registration of trade-marks may be issued to the assignee of the applicant, but the assignment must first be entered of record in the Patent Office.

Written or printed copies of any records, books, papers, or drawings relating to trade-marks belonging to the Patent Office, and of certificates of registration, authenticated by the seal of the Patent Office and certified by the Commissioner thereof, shall be evidence in all cases wherein the originals could be evidence; and any person making application therefor and paying the fee required by law shall have certified copies thereof.

Sec. 12. That a certificate of registration shall remain in force twenty years, except that in the case of trade-marks previously registered in a foreign country such certificates shall cease to be in force on the day on which the trade-mark ceases to be protected in such foreign country, and shall in no case remain in force more than twenty years, unless renewed. Certificates of registration may be, from time to time, renewed for like periods on payment of the renewal fees required by this Act, upon request by the registrant, his legal representatives, or transferees of record in the Patent Office, and such request may be made at any time not more than six months prior to the expiration of the period for which the certificates of registration were issued or renewed. Certificates of registration in force at the date at which this Act takes effect shall remain in force for the period for which they were issued, but shall be renewable on the same conditions and for the same periods as certificates issued under the provisions of this Act, and when so renewed shall have the same force and effect as certificates issued under this Act.

Sec. 13. That whenever any person shall deem himself injured by the registration of a trade-mark in the Patent Office, he may at any time apply to the Commissioner of Patents to cancel the registration thereof. The Commissioner shall refer such application to the examiner in charge of interferences, who is empowered

to hear and determine this question and who shall give notice thereof to the registrant. If it appear after a hearing before the examiner, that the registrant was not entitled to the use of the mark at the date of his application for registration thereof, or that the mark is not used by the registrant, or has been abandoned, and the examiner shall so decide, the Commissioner shall cancel the registration. Appeal may be taken to the Commissioner in person from the decision of the examiner of interferences.

Sec. 14. That the following shall be the rates for trade-mark fees:

On filing each original application for registration of a trade-mark, ten dollars: *Provided,* That an application for registration of a trade-mark pending at the date of the passage of this Act, and on which certificate of registration shall not have issued at such date, may, at the option of the applicant, be proceeded with and registered under the provisions of this Act without the payment of further fee.

On filing each application for renewal of the registration of a trade-mark, ten dollars.

On filing notice of opposition to the registration of a trade-mark, ten dollars.

On an appeal from the examiner in charge of trade-marks to the Commissioner of Patents, fifteen dollars.

On an appeal from the decision of the examiner in charge of interferences, awarding ownership of a trade-mark or canceling the registration of a trade-mark, to the Commissioner of Patents, fifteen dollars.

For certified and uncertified copies of certificates of registration and other papers, and for recording transfers and other papers, the same fees as required by law for such copies of patents and for recording assignments and other papers relating to patents.

Sec. 15. That sections forty-nine hundred and thirty-five and forty-nine hundred and thirty-six of the Revised Statutes, relating to the payment of patent fees and to the repayment of fees paid by mistake, are hereby made applicable to trade-mark fees.

Sec. 16. That the registration of a trade-mark under the provisions of this Act shall be prima facie evidence of ownership. Any person who shall, without the consent of the owner thereof, reproduce, counterfeit, copy, or colorably imitate any such trade-mark and affix the same to merchandise of substantially the same descriptive properties as those set forth in the registration, or to labels, signs, prints, packages, wrappers, or receptacles intended to be used upon or in connection with the sale of merchandise of substantially the same descriptive properties as those set forth in such registration, and shall use, or shall have used, such reproduction, counterfeit, copy, or colorable imitation in commerce among the several States, or with a foreign nation, or with the Indian tribes, shall be liable to an action for damages therefor at the suit of the owner thereof; and whenever in any such action a verdict is rendered for the plaintiff, the court may enter judgment therein for any sum above the amount found by the verdict as the actual damages, according to the circumstances of the case, not exceeding three times the amount of such verdict, together with the costs.

Sec. 17. That the circuit and territorial courts of the United States and the supreme court of the District of Columbia shall have original jurisdiction, and the circuit courts of appeal of the United States and the Court of Appeals of the District of Columbia shall have appellate jurisdiction of all suits at law or in equity respecting trade-marks registered in accordance with the provisions of this Act, arising under the present Act, without regard to the amount in controversy.

Sec. 18. That writs of certiorari may be granted by the Supreme Court of the United States for the review of cases arising under this Act in the same manner as provided for patent cases by the Act creating the circuit court of appeals.

Sec. 19. That the several courts vested with jurisdiction of cases arising under the present Act shall have power to grant injunctions, according to the course and principles of equity, to prevent the violation of any right of the owner of a trade-mark registered under this Act, on such terms as the court may deem reasonable; and upon a decree being rendered in any such case for wrongful use of a trade-mark, the complainant shall be entitled to recover, in addition to the profits to be accounted for by the defendant, the damages the complainant has sustained thereby, and the court shall assess the same or cause the same to be assessed under its direction. The court shall have the same power to increase such damages, in its discretion, as is given by section sixteen of this Act for increasing damages found by verdict in actions at law; and in assessing profits the plaintiff shall be required to prove defendant's sales only; defendant must prove all elements of cost which are claimed.

Sec. 20. That in any case involving the right to a trade-mark registered in accordance with the provisions of this Act, in which the verdict has been found for the plaintiff, or an injunction issued, the court may order that all labels, signs, prints, packages, wrappers, or receptacles in the possession of the defendant, bearing the trade-mark of the plaintiff or complainant, or any reproduction, counterfeit, copy, or colorable imitation thereof, shall be delivered up and destroyed. Any injunction that may be granted upon hearing, after notice to the defendant, to prevent the violation of any right of the owner of a trade-mark registered in accordance with the provisions of this Act, by any circuit court of

the United States, or by a judgement thereof, may be served on the parties against whom such injunction may be granted anywhere in the United States where they may be found, and shall be operative, and may be enforced by proceedings to punish for contempt, or otherwise, by the court by which such injunction was granted, or by any other circuit court, or judge thereof, in the United States, or by the Supreme Court of the District of Columbia, or a judge thereof. The said courts, or judges thereof, shall have jurisdiction to enforce said injunction, as herein provided, as fully as if the injunction had been granted by the circuit court in which it is sought to be enforced. The clerk of the court or judge granting the injunction shall, when required to do so by the court before which application to enforce said injunction is made, transfer without delay to said court a certified copy of all the papers on which the said injunction was granted that are on file in his office.

Sec. 21. That no action or suit shall be maintained under the provisions of this Act in any case when the trade-mark is used in unlawful business, or upon any article injurious in itself, or which mark has been used with the design of deceiving the public in the purchase of merchandise, or has been abandoned, or upon any certificate of registration fraudulently obtained.

Sec. 22. That whenever there are interfering registered trade-marks, any person interested in any one of them may have relief against the interfering registrant, and all persons interested under him, by suit in equity against the said registrant; and the court, on notice to adverse parties and other due proceedings had according to the course of equity, may adjudge and declare either of the registrations void in whole or in part according to the interest of the parties in the trade-mark, and may order the certificate of registration to be delivered up to the Commissioner of Patents for cancellation.

Sec. 23. That nothing in this Act shall prevent, lessen, impeach, or avoid any remedy at law or in equity which any party aggrieved by any wrongful use of any trade-mark might have had if the provisions of this Act had not been passed.

Sec. 24. That all applications for registration pending in the office of the Commissioner of Patents at the time of the passage of this Act may be amended with a view to bringing them, and the certificate issued upon such applications, under its provisions, and the prosecution of such applications may be proceeded with under the provisions of this Act.

Sec. 25. That any person who shall procure registration of a trade-mark, or entry thereof, in the office of the Commissioner of Patents by a false or fraudulent declaration or representation, oral or in writing, or by any false means, shall be liable to pay any damages sustained in consequence thereof to the injured party, to be recovered by an action on the case.

Sec. 26. That the Commissioner of Patents is authorized to make rules and regulations, not inconsistent with law, for the conduct of proceedings in reference to the registration of trade-marks provided for by this Act.

Sec. 27. That no article of imported merchandise which shall copy or simulate the name of any domestic manufacture, or manufacturer or trader, or of any manufacturer or trader located in any foreign country which, by treaty, convention, or law affords similar privileges to citizens of the United States, or which shall copy or simulate a trade-mark registered in accordance with the provisions of this Act, or shall bear a name or mark calculated to induce the public to believe that the article is manufactured in the United States, or that it is manufactured in any foreign country or locality other than the country or locality in which it is in fact manufactured, shall be admitted to entry at any custom-house of the United States; and, in order to aid the officers of the customs in enforcing this prohibition any domestic manufacturer or trader, and any foreign manufacturer or trader, who is entitled under the provisions of a treaty, convention, declaration, or agreement between the United States and any foreign country to the advantages afforded by law to citizens of the United States in respect to trade-marks and commercial names, may require his name and residence, and the name of the locality in which his goods are manufactured, and a copy of the certificate of registration of his trade-mark, issued in accordance with the provisions of this Act, to be recorded in books which shall be kept for this purpose in the Department of the Treasury, under such regulations as the Secretary of the Treasury shall prescribe, and may furnish to the Department facsimiles of his name, the name of the locality in which his goods are manufactured, or of his registered trade-mark; and thereupon the Secretary of the Treasury shall cause one or more copies of the same to be transmitted to each collector or other proper officer of customs.

Sec. 28. That it shall be the duty of the registrant to give notice to the public that a trade-mark is registered, either by affixing thereon the words "Registered in U. S. Patent Office," or abbreviated thus, "Reg. U. S. Pat. Off.," or when, from the character or size of the trade-mark, or from its manner of attachment to the article to which it is appropriated, this can not be done, then by affixing a label containing a like notice to the package or receptacle wherein the article or articles are inclosed; and in any suit for infringement by a party failing so to give notice of registration no damages shall be recovered, except on proof that the defendant was duly notified of infringement, and continued the same after such notice.

Sec. 29. That in construing this Act the following rules must be observed, except where the contrary intent is plainly apparent from the context thereof: That

United States includes and embraces all territory which is under the jurisdiction and control of the United States. The word "States" includes and embraces the District of Columbia, the Territories of the United states, and such other territory as shall be under the jurisdiction and control of the United States. The terms "person" and "owner," and any other word or term used to designate the applicant or other entitled to a benefit or privilege or rendered liable under the provisions of this Act, include a firm, corporation, or association as well as a natural person. The term "applicant" and "registrant" embrace the successors and assigns of such applicant or registrant. The term "trade-mark" includes any mark which is entitled to registration under the terms of this Act and whether registered or not and a trade-mark shall be deemed to be "affixed" to an article when it is placed in any manner in or upon either the article itself or the receptacle or package or upon the envelope or other thing in, by, or with which the goods are packed or inclosed or otherwise prepared for sale or distribution.

Sec. 30. That this Act shall be in force and take effect April first, nineteen hundred and five. All Acts and parts of Acts inconsistent with this Act are hereby repealed except so far as the same may apply to certificates of registration issued under the Act of Congress approved March third, eighteen hundred and eighty-one, entitled "An Act to authorize the registration of trade-marks and protect the same," or under the Act approved August fifth, eighteen hundred and eighty-two, entitled "An Act relating to the registration of trade-marks."

The Carnauba Tree.

This palm tree grows in the States of Bahia, Pernambuco, Rio Grande de Norte, Piauhy, Ceara, Maranhao and Matto Grosso. It is one of the most valuable plants with which Brazil has been favored by nature, not only on account of its resistance to the worst droughts and freshets, but also because of its use as food, medicine and material for manufacturing.

In Ceara there are owners of estates that have immense tracts of land with this most useful tree; they extract personally the wax.

The Carbnaubeira merits the best attention of the Government and private individuals, especially now that the cultivation of a number of articles is necessary, and it is impossible for one to understand why the administrations of the States of Algoas, Pernambueo, Pararyba, Ceara, etc., have not endeavored to promote the cultivation of the Carnaubeira and why the intendendias (municipalities) of the inland zones and of the "catinga" (prairies) do not try to encourage the planting of this valuable tree. Here I shall merely mention the principal properties of the Carnaubeira. The trunk serves for supports; the small branches (palmito) are very savoury; from the pediele of the flower, before it is completely unfolded, is extraeted a sweet sap, which serves as a drink. This drink, when fermented, gives an alcoholic liquid, very agreeable to taste and similar to wine. From the pith of the stem is extracted a sediment, white in color, similar to sago. Its fruits, green, when boiled with water until softened, are eatable if heated with milk. During the droughts the cattle feed on the ripe fruit. The almond, ground up and boiled with water or milk, furnishes a mixture much liked by the farmers; when roasted and ground they are used to infuse and substitute coffee. From the ashes of the root is extracted a salt used for cooking and rich in chloride of soda and of potassium. The leaves are used to thatch houses and to make baskets, fans, matting, brooms, hats, paper, etc.

The wax is found in the greatest abundance on the inner side of the new leaves in the form of a powder, scaly and in color "cinzenta amarellada" (greyish yellow). To extract the wax the leaves are cut and dried in the sun; afterward they split and beaten with rods until it is thought that no more powder will come off. The wax that remains with numerous fibres is purified, being only boiled, or mixed with water and boiled; afterward it is put in conical moulds and allowed to cool. The wax that has a yellow color and a lustre serves for the manufacture of candles. During six months the leaves can be cut twice a month, cutting preferably the oldest, but always leaving some leaves on the tree so that it does not die. A good worker can cut about 1,500 leaves per day. It is calculated that 2,000 leaves furnish 16 kilos of wax.

Ceara and Rio Grande do Norte manufacture about 270,000 arrobos of wax and consume about 89,000 arrobos, exporting, therefore, about 181,000. The wood of the trunk, fibrous and very hard, is light and used with advantage in building, etc., in damp places.

Carnauba wax was for some time in great demand (and may still be to-day), as it was the only one that served to retain the words impressed by the transmitting needle of the phonograph.

A plant so useful that it resists the terrible droughts of Ceara, keeping the leaves always green, should be cultivated on a very large scale, promoting its culture by the distribution of seeds, roots and premiums to those that cultivate a certain number.

The root of the Carnaubeira also is medicinal and looks like that of the "japeganga," and, like the roots of this plant, is used for diseases of the skin, etc. Boil 60 grams of the root in 1 litre of water and give three to four small glassfuls per day. There is extracted from the roots a watery extract, very reddish, and used in the diseases stated above, dose of 1 to 2 decigrams three times a day.—Diario de Pernambueo.

A Blue-Soap.

"Here is a new soap," said the grocer, "that will prove a great help to the laundress, for it contains bluing, and she who uses it will not have to add a separate blueing to her water, as other laundresses do.

"The soap is the invention of a French chemist. It is merely ordinary soap that contains a solution of aniline green in acetic acid. The alkali of the soap converts the aniline green into blue, and thus a perfect bluing is obtained.

"A one-pound cake, like this, sells at just as low a rate as other washing soaps. See, then, what a saving it makes the laundress. When she buys a cake of this soap, it is as though some one had presented to her a bottle of bluing."

(To whom the grocer said all this, and how it first got into print, deponent saith not.)

National Board of Fire Underwriters.

ITS COMMITTEE OF TWENTY—THE WORK IN HAND.

The National Board of Fire Underwriters is composed of 120 of the leading Fire Insurance Companies doing business in the United States, and as set forth in the organization papers, its purpose is to influence the introduction of improved and safe methods of building construction, encourage the adoption of fire protective measures and secure efficient organization and equipment of Fire Departments, with adequate and improved water systems. The Board has no control over rates of insurance, commissions of Agents, etc.

Knowing that the fire waste in the United States greatly exceeds that of other countries, and believing that the Baltimore conflagration would impress upon the public the danger to most, if not all, of our great cities in a like disaster, it was decided to appoint a Committee charged with the duty of organizing an Engineering Department composed of men standing high in their profession and through them to investigate conditions, stating facts as to those existing and making recommendations for improvements that would minimize the sweeping fire or conflagration hazard, especially in the congested or heavy value districts of the cities visited. Accordingly, a staff of engineers has been organized, and to-day there are in the field four parties, each collecting data and making tests in some different city, the work carried on by men who have had experience in Civil, Mechanical, Structural, Hydraulic and Electrical Engineering.

The Chief Engineer, Mr. E. G. Hopson, is especially well known as a Hydraulic Engineer, and was for a number of years in charge of the Clinton office of the Metropolitan Water Board, Boston, during the design and construction of the entire new Metropolitan supply. He was more recently the engineer in charge of the Department of Aqueducts and Reservoirs for the Commission on Additional Water Supply for New York City, having designed and laid out in this capacity the entire supply system north of New York City.

Captain Greely S. Curtis, the engineer in charge of the investigations of the Fire Departments and their auxiliaries, in addition to a professional education in electrical and mechanical engineering, had, until taking up this work, been connected with the Boston Fire Department for a number of years, in charge of the maintenance, condition and tests of apparatus, with the rank of Captain. In addition to his study of American methods, Captain Curtis has also visited various cities in Europe and made a close study of the fire-fighting facilities of that continent.

The entire work of the Committee is under the direct supervision of Mr. Herbert Wilmerding, the Secretary, with offices at 135 William Street, New York. Mr. Wilmerding has for many years been a close student of the relation between fire insurance and municipal departments, especially in reference to building construction and fire hazards. His work with the Philadelphia Underwriters' Association and elsewhere, afforded exceptional opportunities for an intelligent study of the relations between underwriters, architects and engineers in the conduct of municipal work. His study of conflagrations and congested districts has been very broad, both from a logical analysis of conditions presented in the congested districts of cities and from object lessons derived from past conflagrations.

The Federal Government has detailed two engineers of the United States Army to investigate and review the reports of each city, it being the desire of the Underwriters that the reports might have final supervision and be criticised by men in no way connected with the business of fire insurance, and having no reason for endorsing the report that stated other than the facts and asked for improvements and changes that were not in the interest of the public.

A sweeping fire or conflagration is a terrible calamity, and, occurring in one of our greater cities, would wipe out several hundred million dollars of property values, causing no doubt a great panic, from which all of the people of the United States would suffer. It should be borne in mind that, while the Insurance Companies reimburse the actual sufferer by the fire, the people as a whole bear the burden, and unless the people pay enough for the Companies to meet the claims for fire losses, they, the Companies, would soon be forced into bankruptcy.

It is a mistaken idea that payment by Fire Insurance Companies makes good the property loss, for property burned is value wiped out of existence, and the Insurance Companies merely distribute the loss by collecting in small sums premiums from all the property owners

and paying in large sums to those who suffer loss by fire.

Property burned is money wasted, and the people of the United States are the most wasteful in the world in this direction. Fire losses being the barometer of insurance rates, it is interesting to note that the fire cost per thousand dollars of value of property insured is twelve times greater in the United States than in Great Britain, where high buildings, large areas, poor flues and shoddy construction are prohibited by law, and it is twenty times greater than in Italy, where the construction is still better and the conflagration hazard practically eliminated.

It has been said:

"There is but one way to decrease the cost of insur-"ance or to check the tendency to advance rates, and that "is, logically, to deal directly with the cause of insur-"ance, the burning waste. Where a community, a State "or a nation has given its attention to reduction of fire "waste and by whatever effective means, the premium "rate cost has followed with a correspondent reduction. "There are enough powerfully opposed interests in the "business of fire underwriting to keep the rates at a "just level through competitive rivalry. Any company "or class of companies which insists upon an exorbitant "charge for the obligations it assumes will soon find "its books relieved of obligations and its plant idle. Let "the public look after the ash pile, and competition will "take care of the rates."

The seriousness of the conflagration danger in American cities is realized by business men generally, and the reception of the reports of the Committee of Twenty of the National Board by municipal authorities and property owners has been most favorable in the past. It is earnestly hoped that it will be generally realized that the National Board of Fire Underwriters has no desire to dictate, but intend rather to put facts before those interested, hoping and believing that the result may be beneficial to all concerned.

COMMITTEE OF TWENTY,
NATIONAL BOARD OF FIRE UNDERWRITERS.
Office of the Secretary, 135 William St., New York.

Damage By Magnesia Soaps.

A meeting of the Society of Chemical Industry, Nottingham (Eng.) Section, was recently held at the University College. According to a special correspondent of the Oil and Colorman's Journal, Mr. J. T. Wood, the chairman, presided over a very large attendance of members, among whom were Professor Kipping, Messrs. Archbutt, Burford, Gerrard, Golding, O'Sullivan, Pentecost, Watson, White, and others. After the reading and adoption of the minutes of the previous meeting, Mr. S. R. Trotman gave a paper entitled, "Damage caused by Magnesia Soaps in Bleaching and Finishing." In the bleaching and finishing of cotton goods a great deal of trouble and annoyance is frequently caused by the appearance of brownish stains. There are four causes to which these might be attributed: (1) Iron; (2) over-bleaching; (3) mechanical; (4) resin soap and water. The author confined himself chiefly to the last of the causes, because too little attention had hitherto been paid to what was, in his opinion, the chief. Too much was put down to iron and over-bleaching as the cause. He had made careful tests of the fabric damaged by these stains, and the iron which he had found present was too small to cause stains; he had frequently found it less than 0.2 per cent. and never more than 1 per cent. Carefully testing the breaking strain was the best test for over-bleaching, and in his experience he had very seldom found the fabric with the brown stains due to over-bleaching. In the author's opinion the chief cause was to be found in the use of resin soaps with hard water in the scouring operation. Bleachers and finishers paid little or no attention to the water used in this operation, which was a great mistake, because, a water containing magnesia and lime hardness used with resin soaps would be found to be the cause of most of the stains which were usually attributed to iron and over-bleaching. It is the magnesia hardness which contributes mostly to the brown stains, the stains by lime hardness are not quite so pronounced. The magnesia and lime hardened water are softened by the decomposition of the soda resin soap forming magnesia and lime resin soaps, which deposit on the fabric, and, when dry, produce brown stains. On the other hand soaps made from light oils do not produce stains, but those made from dark oils discolour the fabric when used with hard water. It is not until the magnesia or lime soap becomes dehydrated that the stains appear, sometimes not appearing on the fabric until some time after being stored. Mr. Trotman exhibited samples of lime and magnesia soaps which he had prepared from light oils and resin soaps. The oil soaps were perfectly white, while there was a brownish cast about the lime resin soap, the brown color of the magnesia resin soap was quite pronounced. He also exhibited lace which had been treated with soft water and resin soap, some lace treated with hard water and light oil soap, and some treated with lime and magnesia hard waters and resin soap. In each case the fabric had been dried at 212° Fahr. Here again the same results were produced. If bleachers and finishers properly softened their water or used only soap made from light oils, they would find that the brown stains would be less frequent.

Mr. S. J. Pentecost, in opening the discussion, said they were greatly indebted to Mr. Trotman for bringing before them what was quite a new phase of the damage

by brown stains. He was not before aware that magnesia affected the colour any more than lime. Personally, he had never had any trouble with the stains referred to by Mr. Trotman, his chief difficulty had been with stains produced by mineral oils used for the machinery and blacklead. The latter was a great inconvenience, and any discovery which would enable them to overcome this difficulty would indeed be a great boon. Mr. T. A. Gerrard, said that it was an accepted rule in the soap trade to make the soap for use in the textile trade with a considerable amount of free alkali. Would an excess of alkali sufficiently soften the water to prevent the stains to which Mr. Trotman referred? With regard to the effect of soaps made from dark oils, he knew of firms who made soaps from waste grease from wagon axles mixed off with resin. In his opinion these soaps would be the very worst that could be used with hard waters. A member asked if the same stains would be produced with woollen goods. Another member asked if these brown stains would tender the fabric, as in a particular case, some hosiery after having been stored away for about six months, had developed brown stains, and wherever they appeared the fabric was quite rotten. Mr. Burford said he had known stains due to a little sulphuric acid left in the fabric. Mr. Trotman remarked in replying, that in hot water the magnesia and lime resin soaps are soluble, but in cold water are practically insoluble; consequently, in passing the fabric through cold wash water the magnesia and lime soaps are deposited on the fabric, but it is only when dehydration takes place that the stains appear. With regard to free alkali soaps, unless the hardness of the water was previously determined, and soap containing the required amount of free alkali to soften the hardness added, a soap containing free alkali was of little more benefit than ordinary soap. The effect on woollen goods would not be so marked as cotton goods, because woollen goods retained considerably more water than cotton goods, consequently dehydration did not usually take place. The magnesia and lime resin soap stains are not likely to tender the fabric, and the hosiery in the case referred to could not be damaged by resin soaps. Over-bleaching, iron, and blacklead would cause tendering of the fabric, in the latter case the fabric needed so much handling to free it from the blacklead.

Stearine.

Considerable confusion exists in the nomenclature of many technical substances, and in none more than in the group of bodies known as "stearine." From the purely chemical point of view, stearine is the glyceride of stearic acid, and occurs in varying quantities in many of the fixed oils. In order to distinguish this pure substance it has become common of late years to drop the *e* and call the tri-glyceride "stearin," but the difference is so slight that the change has done little to lessen the confusion.

Many vegetable oils which are quite liquid at ordinary temperatures, deposit on cooling a few degrees, more or less of a white solid body which is known in the trade as stearine. This solid is a mixture of various glycerides which are solid at ordinary temperatures when pure, but remain liquid when mixed with large proportions of the liquid glycerides, such as oleine. The more important constituents of this form of "stearine" are stearin, which when pure melts at 71° C, and palmitin melting at 62° C.

In order to separate the "stearine" from an oil such as olive or cotton-seed oil, the oil is cooled down until the "stearine" is deposited. The whole mass is then put into canvas bags through which the liquid portion of the oil, known in the trade as "oleine," drains. By subjecting the bags containing the solid portion to gentle pressure the bulk of the liquid oil is squeezed through the cloth, and the "stearine" is obtained in masses which are now sufficiently solid to be treated in the usual way in a press, or if that be found unsatisfactory on account of the "stearine" exuding through the cloths, a filter-press is employed. In treating the solid portion of an oil in a press, cold pressure is, of course, used, and is applied much more carefully and gradually than in the case of seed-pulp pressing.

The solid oils obtained from animal oil, such as seal oil, etc., are also known by the name of "stearine," and are obtained in the same way.

"Stearine" is also the technical name for the mixture of fatty acids used in candle-making. Here we have a substance, or rather a mixture of substances, of quite a different character from the solid oils described above. The fats or oils have been hydrolised, the glycerine being set free, and the fatty acids, stearic, palmitic, etc., collected. The result is again "stearine."

The process of preparation of this "stearine" need not be described here. There are, as a matter of fact, numerous processes. The oils may be hydrolised by means of alkali, or with sulphuric acid, or even by means of water alone at a sufficiently high temperature and pressure—in any case the result is "stearine."

Lastly, a stearine may be mentioned which is obtained from recovered greases, such as "Yorkshire grease." The grease is usually distilled with super-heated steam and an oil is obtained from it which is cooled until it separates a solid portion. Pressure is then resorted to, and when the liquid portion of the oil has all been expelled, there remains behind another "stearine." The composition of this body varies greatly. It contains a large quantity of free fatty acids, some neutral oils, and a small quantity of hydrocarbon oil. The melting point is about 50° C.

Card-Index-Itis.

For the past few years an epidemic of card-index-itis has raged without ceasing. No matter what you do, or how you do it, you are supposed to keep a card index telling all about it. It is all well enough to keep a card list of customers and to use card indexes for a few other purposes. But because a card index is good for a few things, certain persons—not necessarily wise ones—have vainly imagined that it is good for everything under the sun.

We know a man who is card-index crazy. He has everything indexed. He receives an inquiry for a catalog; sends the catalog and puts the inquirer's name on a blue card; if no order comes in two weeks he sends out form letter No. 279, clips off the upper right-hand corner and awaits results; two weeks more—no order yet? Then another form letter—No. 280—and another corner off the card. In two weeks the name goes on a red card—more corners off—and so on until all the colors of the rainbow and all the corners on the cards are exhausted. For all of this is according to a beautiful "system" preached by magazines published for the sake of stimulating the sales of index cards and accessories.

But even this is not all. He has everything in his house indexed. His high hat is on shelf 3, division A, closet X. Baby's blue dress is in drawer 2, bureau 7, room 11. And we have no doubt that the coal is in bin 1 of cellar B. It keeps this man so busy revising his card indexes that he has little time left to do anything of consequence at his real business.

It's not hard to overdo even a good thing.—The New Idea.

PATENTS AND TRADE-MARKS.

The following list of recent Patents and Trade-Marks is reported by W. G. HENDERSON, Solicitor of American and Foreign Patents and Trade-Marks, Norris Bldg,, Washington, D. C. A copy of any of the following will be furnished by him for 15 cents.

PATENTS.

784,411. Materials for Perfumes and Making Same. Georg Merling, Frankfort-on-the-Main, and R. Welde, assignors to Farbwerke, vorm. Meister, Lucius & Bruning, Hochst-on-the-Main ,Germany.

784,412. Materials for Perfumes and Making Same. Georg Merling, Frankfort-on-the-Main, and R. Welde, assignors to Farbwerke, vorm. Meister, Lucius & Bruning, Hochst-on-the-Main ,Germany.

784,767. Soap-pulverizing Machine. Richard H. L. Talcott, Brookline, Mass.

TRADE-MARKS.

44,178. Certain Named Soap. Jefferson A. Simonds, New York, N. Y. The word "Aseptine."

44,179. Certain Named Proprietary Medicated Soap. World's Dispensary Medical Association, Buffalo, N. Y. The word "Curaskin" in script.

44,198. Washing Fluid. Margaret F. Tobianski, Laurium, Mich. The word "Banshee" and a portrait of the registrant.

44,265. Soap. Gustav Lohse, Berlin, Germany. The word "Ceral."

44,266. Soap. Gustav Lohse, Berlin, Germany. The representation of a carriage on rails containing a cart-load of flowers in the process of unloading surrounded by two concentric oval-shaped figures.

44,204. Soap. Charles F. White, Rochester, N. Y. The representation of a man in the act of shampooing his head. The head, bust, and arms of the man are shown, and the man is represented as having a towel drawn around his neck and shoulders and with his head covered with lather and his hands poised in the act of shampooing his head.

44,205. Soap. Wilhelm Anhalt Gesellschaft mit Beschrankter Haftung, Kolberg, Germany. The word "Aok."

44,307. Soap. Frazer Lubricator Co., Chicago, Ill. The word "Strajuso."

LABELS.

11,868. Title: "Ammo." (For Washing-Powder.) Frederick L. Fraser, Detroit, Mich.

11,890. Title: "Boquet Au Fleur Naturel Parfum Napoleon." (For Cologne.) Charles Rahayel, New York, N. Y.

11,891. Title: "Ec-Zine Skin Soap." (For Soap.) Charles L. Boyd. Chicago, Ill.

AROUND THE SOAP FACTORIES.

News-items sent us by our readers will find prompt attention in this column

Little Rock, Ark., March 1, 1905.—C. J. Gratiot of St. Louis, was in little Rock yesterday conferring with local business men with a view to moving a large soap factory in which he is interested to this city. The matter was taken up with Mr. Gratiot by the board of trade some time ago and his visit yesterday was the result. He expressed himself as well pleased with the city. In company with Mayor Lenon, Mr. Gratiot inspected a number of prospective sites for the factory yesterday afternoon. The factory now has a capacity of 200 boxes per day and the management intends to increase this to 500 per day. The advantages offered by Little Rock for the factory are the railroad facilities and large market to be found in this city and the location

in this city of a number of cotton seed oil mills, from which a large part of the raw material used by the soap factory is used.

St. Paul, Minn., March 4, 1905.—Articles of incorporation were filed with the secretary of state yesterday for J. T. Kenny & Co., St. Paul. The capital stock of the new company is $20,000, and it will manufacture soaps and lubricants. John T. Kenny and Joseph R. Kenny, St. Paul, and Philip J. Riordan, Minneapolis, are the incorporators.

Chicago, March 14.—Swift & Co. have closed a contract with Durand & Caspar, the wholesale grocers of this city, for twenty-five carloads of laundry soap. The sale is one of the largest ever made in one lot.

Torreon, Coah., Mexico, March 2.—During the year of 1904 the Union soap factory of this city produced 100,000 boxes of soap, more than 2,000 tons of cotton seed oil cakes, mostly exported to Europe, and 2,004 tons of crude glycerine, which went to the United States. The profit of the concern for that year was $82,689.30.

Incorporated: The Eby Soap and Ammonia Company, of Detroit, Mich., has been chartered with $50,000 capital. The officers are: President, F. C. Eby; vice-president, John E. Fraser; secretary-treasurer, Frederick Fraser; directors, the officers and Sidney T. Miller. The company was formed to reorganize the business so long carried on by Frank C. Eby.

Item from Catskill, N. Y.: The well known Thomas Doody and Patrick Bergen of this village, have been busy for the past week manufacturing soap. The soap is called (D. D. D.) Doody's Dirt Disturber. The new firm will put the soap on the market in a few days.

Brooklyn, N. Y., March 2, 1905.—John H. Doscher, the first president of the German Hospital Society of Brooklyn, died on Tuesday in his sixtyfourth year at his home, 1047 Myrtle avenue. He was born in Germany and at an early age came to America and settled in Williamsburg. He got rich in the soap manufacturing business and retired. It is said that as the result of his charitable disposition he gave away nearly his entire fortune and died comparatively poor. While at the head of the German Hospital he contributed largely to its welfare. He was the first president of the Plattdeutscher Volksfest Verein.

Cincinnati, March 1, 1905.—Two thousand stockholders and employees of the Procter & Gamble Company yesterday afternoon gathered at the big plant at Ivorydale to partieipate in the thirty-fifth regular semi-annual dividend meeting of the employees. Each employee was given a dividend of 12 per cent. of his annual salary.

The management announced that the men who took their dividends out in the shape of company stock have realized 27 per cent. of their salaries during the past year, through the increased value of their stock, together with their dividends.

The festivities began at 2 o'clock in the afternoon and lasted until 6, consisting of a band concert, light refreshments and a general good time.

Fifteen hundred employees are said to have saved $130,000 in the past year through the profit-sharing dividend system which has proven such an incentive to them in their work.

The C. T. Perry soap factory of Helena, Montana, which was destroyed by fire about two months ago is to be rebuilt on a larger scale than before.

Incorporated: The White Cliff Soap Co., Columbus, Ohio; capital stoek, $30,000.

The following from the Cambridge, Mass., Chronicle: "Henry Elijah Jones, a respected citizen of Cambridge, died at his home, 285 Harvard street, Monday, February 13, after two days' illness with pneumonia. Mr. Jones was born in Saxtons River, Vermont, 78 years ago. He came to Boston as a young man and went into business with an Allston firm. Later, he associated himself with his brother, Charles L. Jones, and became a member of the firm of C. L. Jones & Co., manufacturers of soapwith a place of business on Pearl street. Three years ago the firm dissolved, owing to bad investments made without Mr. Jones' knowledge. Mr. Jones lost everything, including the property on Pearl street and his magnificent home at the corner of Harvard and Inman streets, long known as the Jones' estate, and upon which a large apartment house has recently been erected. Mr. Jones has always enjoyed an unblemished business reputation, but at the time of the failure he conducted the affairs with such unusual consideration and rectitude that he won the grateful admiration of the creditors and remonstrances from his friends, all of whom were incensed that at his time of life he should be brought to such conditions through another's wrongdoing. Mr. Jones was a man of quiet and refined tastes, absolutely devoted to his business and his home, and greatly beloved by those fortunate enough to enjoy his friendship.

Cleveland, Ohio, March 11.—Building Inspector Dooley and Health Officer Friedrich together rode over the West Side yesterday afternoon and viewed the site for the proposed factory building for the Cleveland Oil

Soap Company on Lake avenue, opposite Elliott street.

Residents in the neighborhood, when they heard that a permit for the erection of a building of this character had been applied for several days ago, requested that the inspector withhold the necessary permission. He stated that he could not comply for the reason that the proposed building answered in every respect the requirements of the code.

He then advised them to place the matter in the hands of Dr. Friedrich, promising that he would not grant the permit until the doctor had investigated and had decided whether any vapors or odors would emanate from the works, and whether they would be injurious to the health of the community.

Dr. Friedrich inspected the present works of the company on Scranton avenue Thursday, and after viewing the new site yesterday decided that he could not prevent the erection of the building. The building inspector, upon his return, issued the permit.

Los Angeles, Cal., March 2.—Steps in the affairs of J. W. McCauley, the Pasadena promotor, were taken yesterday when H. D. Underwood brought suit in the Superior Court for the appointment of a receiver for the Lemola Soap Company. It is alleged that there are now outstanding 23,000 shares of common stock and 8,000 of the preferred, although the complaint declares that the corporation's tangible assets amount at present to only $100. Underwood declares that he is the owner of 300 shares of stock.

The complaint alleges that McCauley has never carried on any business for the company except the sale of stock which he refuses to account although he has been asked to do so. It is alleged that he assumed the duties of general manager but refused to allow an audit of the books; that he agreed to establish agencies, but never has done so; and that the company shipped a large quantity of soap East which was placed in storage and that even the storage charges were not paid.

Underwood declared that the corporation now has pending in Ohio a suit against the Eureka Soap Company for infringement of patent asking for $60,000 damages, which the stockholders believe to be meritorious, but that McCauley, although requested to prosecute the suit, has failed to do so.

It was only a few days ago that an attachment was levied on McCauley's property, but all that could be found was about $300 in the bank and some stocks of unknown value.

A member of the family of John W. McCauley at Pasadena, states that he arrived at Reno, Nev., with his wife last Saturday, and left immediately to inspect a mine some fifty miles distant from the city.

There is a well founded impression that McCauley does not know of the attack that has been made upon his character, and that advantage was taken of his absence to give publicity to suits against him. As soon as McCauley places himself in communication with his family he will be notified of the charges that are being made and it is said on good authority that he will defend himself.

The Midway Manufacturing Company, of Midway, Ky., has been incorporated to establish a soap factory by H. C. Kasselman, president; W. B. Cogar, secretary; C. W. Parish, treasurer, and W. C. Kingsbury, superintendent.

Among the newest incorporations of firms interested in soap making is the Babeskin Soap Co., at New York, to manufacture soaps, etc. Capital, $15,000. Incorporators, G. Nyman, Hoboken, N. J.; G. Strassburger, L. Kinreich, New York City.

Among the many recorders of this piece of news there was one who referred to the new firm as "The Bareskin Soap Co." "What's in a name, anyway?"

Toronto, Canada, March 18.—The factory and assets of the Atlantic Soap & Oil Company on the Don Esplanade were sold yesterday to Mr. Frank M. Van Zant, whose tender of 45 cents on the dollar was the highest received. The tendered rate will produce about $9,000. The factory was sold as a going concern by Mr. Osler Wade, the permanent liquidator.

Goshen, Ind., March 2, 1905.—Creditors have forced the Cosmo-Buttermilk Soap Company into a receivership, and the Elkhart County Loan and Trust Company will assume charge. The soap company is controlled by J. J. Burns & Son, and it is alleged that the senior Burns became financially embarrassed through the construction of interurban lines; his last venture being an electric road between Laporte and Michigan City.

Judge James S. Dodge in chambers at LaGrange appointed the Elkhart County Loan & Trust Company, receiver for the Cosmo-Buttermilk Soap Company, against whom Blumberg & Tobias filed suit for about $4,000 on account.

Thomas Davis, secretary of the Elkhart County Loan & Trust Company qualified this afternoon, and is now taking an invoice of the plant and examining the books.

The Cosmo-Buttermilk Company filed a written consent to the receivership proceedings and there was no contest. Hon. W. J. Davis was the only attorney to go to LaGrange.

W. J. Davis, of the law firm of Davis & Schaefer, went to LaGrange this afternoon, where he went before Judge James S. Dodge in chambers in a suit against the Cosmo-Buttermilk Soap Company on behalf of Blumberg & Tobias, asking for a receiver. Blumberg

& Tobias state that they have a claim of about $4,000 for grease. Attorney E. E. Mummret is attorney for the Cosmo people, and will accompany Mr. Davis to La-Grange. Receivership proceedings have been agreed upon.

The Cosmo people state that they desire a receivership, hoping the plant will pass into the hands of capitalists who will be able to put it in active operation. They state that internal disagreement among the officers and stockholders of the company have prevented the successful manufacture of the soap. They claim that by putting the business in the hands of a receiver and having it bought in, is the quickest means of adjusting interests and starting the wheels to running.

The plant and machinery, which is very modern and of high grade, cost nearly $100,000. The soap is of a good grade and commands a ready market. The name Cosmo-Buttermilk Soap is worth a small fortune in itself. It is estimated that the business, with its name and good will, is worth nearly $150,000.

In reply to a number of enquiries on the manner of manufacturing white tar soaps, which we have recently received, we take pleasure in pointing to the advertisement, in this paper, of the Pensacola Tar & Turpentine Co. As the adv. may not appear again, make a note of it right now, if interested.

The Warren Soap Manufacturing Company, on account of largely increased business, have thought best to increase their capital stock. Mr. Albert C. Warren, treasurer of the company for many years, and president since the death of Mr. George L. Stevens, finds his duties with the Warren Brothers Company, of which he is treasurer, taking up so much of his time that he feels it necessary to resign from the presidency of The Warren Soap Manufacturing Company. The new officers of this company are Henry W. Tenney, president; I. L. Welsh Reynolds, treasurer; and Stephen W. Libby, vice-president and superintendent.

Mr. Tenney has been with this company for twelve years, and is well known throughout New England, where he has looked after that section of their business. Mr. Reynolds came with the company at the same time as Mr. Tenney, and has taken care of their New York State business, where he has a very large trade. Mr. Libby, who has been chemist and superintendent of the works for the past fourteen years, will still have charge of that branch of the business. He is well known as one of the best soap chemists in the country. The company has ten salesmen on the road, and is one of the largest textile soap manufacturing concerns in the United States. Some of their employees, who have been with them for a long time, have been given the opportunity to acquire stock in the company.

Additions to Our Brand List.

356—H. E. Wofford Co., Baltimore, Md.
357—Fox River Soap Co., Green Bay, Wis.
358—Lever Bros. Co, Cambridge, Mass.
359—Lever Bros. Ltd., Port Sunlight, England.

Ammo Wash. P.—F. L. Fraser, Detroit, Mich.
Aseptine—J. A. Simonds, New York, N. Y.
Big Cape, Cape City S. Works., Cape Girardeau, Mo.
Ceral—Gustave Lohse, Berlin, Germany.
Dolly Varden — A. W. Wilwid & Co., Newark, N. J.
Fawn—Cumberland (Md. Soap Co.
Lustro—F. L. Hunt, Cincinnati, Ohio.
Merry War, Cape City S. Wks., Cape Girardeau, Mo.
Oleo—Germ. Amer. Soap Wks., New Orleans.
Power Soap — F. Martin, Columbus, Ohio.
Radium—Natl. S. Corporation, Boston.
Strajuso—Frazer Soap Co, Chicago, Ill.
Strawberry Juice Transparent Glycerine S. No. 202—Frazer Soap Co., Chicago, Ill.
Volcano—F. L. Hunt, Cincinnati, Ohio.

Angelo Olive 54
Aroma de Clavel 54
Bell's Benzene 343
Big Cannon 357
Boro Myrr 54
Bright Home 356
Cannon 357
Clavel 54
Cu-Te-Na 351
Cygnet 74
Don't Worry 74
Four Leaf Clover 54
Gasene 106
Glyco Tar 54
Golden Dawn 357
Golden Dragon 54
Golden Star 357
Gold Medal 106
Indian Tar 357
Individual Toilet 54
It 4
Keno 106
Koko-Oil 54
Kold-Wata 54
La Batea 2
La Fiesta 54
Lazarre Castile 357
Magno 106
Navarino 357
Osmosis Soap 4
Oxy-Kali 16
Peach Bloom 356
Pearl Borax Chips 74
Prairie 72
Prismal 106
Radio 106
Savon Fleur de Lis 54
Signet 74
Spick and Span 106
Stellar 106
Trix 54
Veg-Oil 113
Veget-ore 4
White Dawn 357
White Man's White Tar 357
Wofford's Complexion 255
Yellow Star 357

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SUPPLEMENTARY LIST
OF THE
BRANDS OF SOAP MANUFACTURED IN THE UNITED STATES
Including also the Brands of Foreign Manufacture Registered as Trade-Marks in this Country.

NOTE: This list is compiled with the greatest possible care, but the publisher does not assume any responsibility other than to correct and to complete the list according to data obtained from official sources or furnished by the trade. Brands registered in the patent office as trade-marks or labels are given with the name of the party registering same. Brands or names marked * are those which were found to be used by more than one firm or the owner of which could not be ascertained. ☞ SEE THAT ALL YOUR BRANDS ARE ENTERED IN YOUR NAME.

3 Liberty Mfg. Co., Chicago.
113 Puck Manufacturing Co., Des Moines, Iowa.
344 Home Soap Co., N.Y.
345 Columbia Ref'g. & M'f'g Co. Ltd., New Orleans.
346 Beaumont Soap Co, Mayfield, Ky
347 Lockwood Soap Co., Kansas City, Mo.
348 Oklahoma Soap & Oil Co., Oklahoma City.
349 M. F. Windsor Soap Co, East Buffalo, N. Y.
350 Florida Cotton Oil Co., Jacksouville, Fla.
351 Brown Soap Co., Dayton, Ohio.
353 Southern Soap Co., Birmingham, Ala.
354 Zion City Soap Factory, Zion City, Ill.
355 Palami Co., Boston, Mass.

Ahrado, Floridine Mfg. Co., New York.
A Happy Home 4
Alabama Tar 3
All-need it 286
Allpine Tar 337
Amazon Coco 337
Amber Rose 346
Ammonaptha 347
Anchor Castile 3
Angelus 54
Antelope 3
Antillia 2
Antler 337
Anty Up 340
Apple Blossom 337
Aquidneck; F. P. Garrettson & Co., New York City.
Atoka 346

Baby Mine 8
Bannock 3
Bauty 32
Beauty Belle 151
Beaumont's Shaving 346
Beef Oil 340
Bell's Brown 343
Bell's Naphtha 343
Ben Hur 3
Bestever 286
Bicycle 3
Big Eye 353
Big Glycerine 3
Big Iujun 348
Big Luck 350
Billy-Goat 340
Bi-Naptha 348
Bleachem Soap 341
Blo-Re-Mo 333
Blossom Bouquet 3
Blue Chip 340
Blue C'oud 2
Blue Coco 340
Blue Family 340
Blue Monday 340
B'ue Olive 340
Boast 3
Bora-Naptha 96
Botica Francisca 3
Bouquet Chic 3
Bonquet Reverie 3
Brazilian Bath 3
Breath of Heliotrope 337
Breath of Lilacs 337
Breath of Roses 337
Breath of Violets 337
Brightshine 136
Bunny—Hewitt Bros. Soap Co. Dayton, Ohio.
Buster Brown 351

Cade-ola 3
Calcutta Castile 337
Calumet 3
Camille 3
Carbolized Castile 113
Cascade 16
Ceske Slovonsky
Ceske Polski 3
Chiles' Cactus Cream Skin S.—Geo. Catlin, Chicago.
Chlorine 340
Cleaneasy 286
Climax Chip 54
Cloth Pin 340
Cloths Pin 340
Coa Nut 346
Coaster 32
Coca Foam 3
Colombo 351
Columbia 3
Conto & Elroy Castile 3
Cream Naptha 343
Credential Shaving Stick 16
Cricket Soap Powder; Davis & Marston, New York City.
Crown Princess 337
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Position Wanted: By a practical soapmaker of long experience. Competent in Settled soaps of all kinds, also Chips, toilet soaps and soap powder. Those wanting a good reliable man, will do well to address : CANADIAN, care of American Soap Journal, Milwaukee, Wis.

Position Wanted: Capable young soapmaker, familiar with making all varieties of toilet soaps, toilet preparations and perfumes, desires position. Best of references. Address: X. X., care of American Soap Journal, Milwaukee, Wis.

Position Wanted: By a practical, reliable soapmaker on all grades of laundry soaps, milled toilets, textile soaps, soaps for steam laundries and all kinds of soft oil soaps. No bad habits. Best of references. Address: I. S. A., care of American Soap Journal, Milwaukee, Wis.

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Situation wanted by competent soapmaker and chemist. Address: C. D., care of American Soap Journal, Milwaukee, Wis.

Position wanted as soapmaker. Can take full charge of factory and have first-class refcrences. Address: G. B. W., care of American Soap Journal, Milwaukee, Wis.

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Wanted: Experienced Laundry Bar Salesman for Canada. Apply; Metropolitan Soap Co., 34 Atlantic Ave., Toronto, Ontario, Canada.

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W. A. MOTT

Soap and Oil Chemist

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Determination of Fatty Acids in Cotton Seed Soap Stock. ℒℒ Estimation of Oil in Cotton Seed and Meal, &c., &c. ℒℒ Percentage of Free Fatty Acid, &c., &c., and all Chemical work pertaining to the Soap Factory, done carefully and accurately. ℒ ℒ

Write for terms &c.

The American Soap Journal & Manufacturing Chemist.

A MONTHLY JOURNAL OF THE MANUFACTURING CHEMICAL INDUSTRIES.

DR. HENRY GATHMANN, PUBLISHER.
2707 North Ave, Milwaukee.

MILWAUKEE, WIS., May 1, 1905.

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THE
AMERICAN SOAP JOURNAL
AND
MANUFACTURING CHEMIST.

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The AMERICAN SOAP JOURNAL AND MANUFACTURING CHEMIST is devoted to the interests of all manufacturing industries of a chemical character, and is an absolutely independent publication. It is the only newspaper of its kind in America and has also a large foreign circulation.

For Subscription and Advertising rates see above.

Communications on industrial subjects, news items, and any information suitable for printing in these columns, are solicited and will have due attention.

Readers in search of machinery, supplies etc., not advertised in these columns, are invited to write us and we shall endeavor to supply the information.

Address all communications to

DR. HENRY GATHMANN, Publisher,
2707 NORTH AVENUE,
MILWAUKEE, WIS., U. S. A.

The meeting of the National Soap Manufacturers' Association was held in Chicago on April 11, as previously announced. The following manufacturers were represented:

James S. Kirk & Co., by James A. Kirk.
N. K. Fairbank & Co., by J. W. Lewis.
Wm. Waltke & Co., by L. H. Waltke.
Central City Soap Co., by Mr. Delamter.
J. Eavenson & Sons Inc., by F. V. Eavenson.
Dunwoody Bros. Soap Co., by Mr. Jackson.
Geyserite Soap Co., by Mr. Walker.
J. G. Haas Soap Co., by Mr. Arnold.
Lever Bros. Co., by Mr. Winters.
James Beach & Son, by Mr. Beach, Jr.
Wm. Reardon & Sons Co., by Edmund Reardon.

In the absence of the President in Europe, also of the Vice-Presidents, Mr. F. V. Eavenson of Eavenson & Sons, Inc., was elected chairman. The Treasurer's report was read and accepted.

Letters and telegrams of regret for inability to be present were received from the Detroit Soap Co., J. H. Keller Soap Works, J. S. & Thos. Elkinton, Fels & Co., Christopher Lipps Co., Globe Soap Works, Cudahy Packing Co.

The following named gentlemen were elected officers of the association for the ensuing year:

President: Mr. M. M. Eavenson.
Vice-President: Mr. James Beach.
Second Vice-President: Mr. W. R. Post.
Secretary and Treasurer: Mr. Edmund Reardon.

The John M. Hinkle Mfg. Co., of Columbus, Ohio, and George A. Schmidt Co., of Chicago, were admitted to membership.

A long and general discussion of various matters of interest to the association, including the Larkin method of selling soap, took place and the executive were urged to consider the various matters under discussion in the interest of the trade.

For our list of the various uses to which soap is put a new and odd addition comes to us through the columns of the Seifenfabrikant. We learn there that soap tablets decorated with representations of John baptizing the Savior, or the Birth of Christ, the Crucifixion, the Resurrection, and other like representations, are made in Austria and exported to the Holy Land, not for the

uses ordinarily assigned to soap, but for the purpose of being sold there through peddlers to devout pilgrims, who visit the country from afar and take the soap cakes back as cheap souvenirs for their friends. O tempora, O mores!

* * *

The soap, never being intended for actual use, is described as of poor quality and the cake is only half the usual size; the selling price is 2 and 3 cents a cake and very high at that. The scenes presented by the die are selected according to the locality where the soap is to be sold. A cake, for instance, sold along the Jordan, represents the Baptism by John, and the poor pilgrim who can neither carry much baggage nor spend much for souvenirs, invests his 2 or 3 cents on a sanctimonious fraud (which by right ought to be marked "Made in Austria") and presents it to his friends at home, who never suspect that the soap was made perchance in their own home town.

* * *

And with the characteristic business instinct that graces these degenerate days, the correspondent of our contemporary suggests that German manufacturers ought to compete for this business in spurious relics, since more than 30,000 pilgrims visit the country annually and being mostly quite poor, buy the soap freely —finding no cheaper souvenirs available.

* * *

Business is business. Our soul recoils in horror at the thought of the American flag being misused for advertising purposes; but the head of Christ stamped on a cake of bad soap, made in Austria and sold as the product of a pious inhabitant of Jerusalem, that's "enterprise."

A Philadelphia Bulletin item by some beauty expert is to the effect that soap is the direct cause of hair growing on the face in undesirable places, as, for instance, on ladies' lips and chin; the writer warns consequently against "the use of soap on the face where there is a tendency to hair growing."

It does the soap business no good to have such reckless statements circulating in the Beauty Corner of the family newspapers; an ordinary denial would be quite ineffective. Would it not be advisable to get even by placing on the market a hair-restoring soap? This would not only prevent a decrease in the consumption of soap, but the failure to restore hair would restore confidence in soap for washing the face.

"The New Idea" in its last issue says: One would hardly expect soap, applied in the usual way, to cure indigestion, yet such is the claim recently made in advertisements for a soap sold for toilet use. Its physiologic action is explained by saying that it stimulates the skin and aids circulation of the blood—and—and—well, anyway it aids digestion. The next thing we may now expect is that a certain kind of hat will prevent corns from coming to adorn the toes of its wearer by drawing blood to the head and thus relieving the pressure on the feet.

Seriously, was ever the "health idea" so grotesquely overdone as in the past two or three years? It is almost impossible to buy anything now without learning that it has certain peculiarities which tend to conserve or restore health.

Is it at all strange if, as we are informed by the Southern Druggist, a boy asked in one of the stores the other day for "Grandfather's Catarrh Soap?"

Why not?

The tenth annual convention of the Interstate Cotton Crushers' Association will be held in New Orleans on May 16-18.

A subscriber in a recent letter writes us in regard to certain comments of ours in the last Soap Journal.

"As you rightly say, soap is about the last thing from which we need fear infection; disease germs deposited on the wet cake of soap will be destroyed by it; there are a thousand and one things which we are compelled to handle every day, immeasurably more dangerous in this respect than a cake of soap; for instance paper money; and would that writer refuse to touch it? Even Roeky's 'tainted' brand? And what about library books? The straps and seats in street cars? Chairs and lounges in public places, etc., etc.?"

The unprecedented prices commanded by rosin lately, and the prospects of still further rises before the new crop can be available, have been amply commented on in all market reports. Past issues of the Soap Journal have repeatedly also thrown light on the methods used in the South in simultaneously destroying the rosin industry and holding up the price and the consumer.

What appears to promise becoming a new phase in this situation is foreshadowed by the following Associated Press report from Hattiesburg, Miss., dated April 15:

The turpentine operators in Alabama west of the Alabama river, Miss., Louisiana and Texas will hold a conference here next Wednesday for the purpose, as stated in the call, of "discussing the naval stores situation and devising ways and means to secure and maintain the best possible prices for the product."

It is said the real purpose of the meeting is to form an organization to oppose the so-called turpentine trust

and to arrange for the handling of naval stores by a corporation representing the producers direct.

A similar movement was recently launched by the Atlantic coast operators at a meeting at Jacksonville, Fla.

* * *

A rare chance to "see ourselves as others see us" in regard to our rosin markets, is afforded by an article written by a large firm of importers of rosin in Hamburg, Germany, published in the Seifensieder Zeitung of Augsburg last month, of which the following is a careful translation:

"It appears to us very desirable to throw some light on the present position of the American rosin market, and on the circumstances to which we are indebted for the abnormal height of prices and the simply ridiculous unsteadiness in the quotations; we make this statement in the face of the innumerable complaints that have reached us for several years from diverse parties using rosin and its products in the manufacture of their output.

"Probably not everyone interested in this article is aware of the circumstance that the larger portion of the rosin produced in America must, according to contract, be taken over by an American trust under the direction of the S. P. Shotter Co., in Florida (American Pine Products Co., Hamburg), and at the Savannah market prices. The consequences of this contract obligation on the part of the American trust are that it must buy at Savannah prices a large amount of rosin day after day, without being able to find a ready outlet at profitable prices for the daily receipts. The rosin is therefore stored in the ports of Florida, as Jacksonville, Fernandina, Pensacola, Brunswick, Wilmington, etc., until there accumulates a very large amount of the various grades; then favorable market conditions are—not awaited—but provided, and the accumulated stock is disposed of as well as possible.

"From the moment when the trust has succeeded in cleaning up its holdings, or at least the greater portion of them, at the artificially raised prices, the market at Savannah drops, for the next point is to buy cheaply again until a repetition of the same manipulation yields the highest profit attainable.

"The same play is performed about a dozen times in a year's time. An attentive observer of the rosin market may often have looked in vain for the reasons of these frequent fluctuations, for as a matter of fact there are no such reasons.

"With nearly all other commodities of the markets such accessory circumstances as conditions of the crop, greater or less demand, etc., exert a paramount influence on the price. In the case of rosin, as we shall prove in the following, all these considerations have little or no bearing, unless quite exceptional circumstances should occur.

"The crops, in comparison with the previous ones, have not varied materially during the last two years, as is seen from the following figures taken from the Savannah Naval Stores Review, a paper inspired by the trust and as we are informed by a competent party edited by Mr. Shotter:

1900-1901	2,045,453	barrels.
1901-1902	2,032,620	barrels.
1902-1903	2,099,953	barrels.
1903-1904	2,017,112	barrels.

"The consumption of rosin, on the other hand, at least in the years of 1903 and 1904, has decidedly decreased, for many manufacturers who were in position to employ substitutes have during the last two years discontinued in some cases the use of rosin altogether, and others have at least cut down their consumption of rosin very materially.

"Let us now, in view of the foregoing figures, look at the prices paid during the past five years for the most-used grades, E, F, G, H.

21/2. 1900	21/2. 1901	21/2. 1902	21/2. 1903	21/2. 1904	21/2. 1905
E Mk. 8.—	Mk. 7.30	Mk. 7.40	Mk. 10.30	Mk. 13.—	Mk. 14.—
F " 8.30	" 7.50	" 7.60	" 10.30	" 13.20	" 14.40
G " 8.80	" 7.80	" 7.90	" 10.75	" 13.40	" 14.75
H " 9.40	" 8.35	" 8.20	" 12.25	" 13.40	" 15.75

"These prices are per 100Ko. (about 220 lbs.) delivered at dock in Hamburg, 14 per cent for packages, 1 per cent. for cash. (MK1.00 equals practically 25 cents.)

"Are any further arguments required in the face of these figures? They show quite plainly that it was not the natural position of the article which determined its price during recent years, but that the prices were solely and singly the result of arbitrary conditions for which the responsibility rests entirely with the Shotter Co. Moreover, the rosin trust at present exerts all possible means to induce operators to decrease their production of rosin, for then only is the trust in position to dictate prices to the consumer.

"Several weeks ago we had the pleasure, by a circular letter, to call the attention of our customers to such a bull manipulation on the part of the rosin trust and to recommend to them the greatest possible moderation in their purchases. There already existed but moderate tendency to buy at that time, and, as proven by the many letters received from our customers who agreed to and recommended our views, our circular still further discouraged buying, and, in spite of its desperate efforts, the trust did not succeed at the time in disposing of any appreciable quantities of rosin in Europe.

"When after about two weeks of attempting to force the price these gentlemen in America realized the utter

futility of their undertaking, the market dropped as fast as it had gone up. As soon then as the prices had dropped to a certain level, the European demand revived and at once the same maneuver was re-enacted, so that to-day we have prices such as in connection with rosin are simply unprecedented.

"Present prices are nothing more nor less than creations of the American trust manipulations, but in our opinion the trust will succeed in maintaining the high prices for any length of time *only* if it also succeeds in selling large quantities at these prices. And its success in this latter respect we must doubt very much, considering the very slight demand prevailing in Hamburg and London, the two chief rosin markets of Europe. The only chance to successfully oppose the machinations of the rosin trust probably lies in the association of consumers and others interested in a joint stand against the trust. We have repeatedly been asked by a number of large consumers of rosin to head an organized movement against the rosin trust, but we are convinced that success can attend such a movement only if it is of sufficient volume to counterbalance the trust."

(Signed.) ERNST C. BARTELS, Inc.,
Hamburg, March 11, 1905.

* * *

American consumers, whatever views they may hold regarding the fairness or otherwise of the rosin situation, have suffered equally and will not fail to find the foregoing interesting, if not edifying.

Having written to a certain reader of this paper that we have not as free access to soap factories in general as he apparently believed, we received the following reply the other day:

"We are a little surprised that the average soap factory does not give you an opportunity of going through their plants. This is one of the things that we do allow and solicit, as we are proud of the kinds of materials we use and the kind of products we manufacture, and should you ever be in our city, do not hesitate to pay us a visit."

We can truthfully say that the soap factories which we have had an opportunity to visit in the past were invariably such as their owners were proud to show! Of course, we can only suspect, without being sure, that many soap factories deny us admittance chiefly because they are *not* proud of their plant. However, we have learned long ago not to ask for the privilege.

Last month we barely had time to announce that the much heralded African soap tree had been discovered existing also in Florida. Meantime Mr. Moulié has investigated the matter fully and we expect to receive from him a lengthy report in time for this issue. Unless it fails to arrive, our readers will find it on another page of this issue.

* * *

Meantime Mr. Moulié has mailed us about half a dozen berries found on the ground under the tree discovered in Florida and we find that with a reasonable degree of friction and the aid of water, a berry will raise quite a lather. The seeds had been removed from these berries before being mailed to us, and have already been planted by Mr. Moulié. Other samples of the berries have been sent to some soap manufacturers who had enquired regarding them.

* * *

The U. S. Consul at Algiers has also received many enquiries on the subject, so that he has been obliged to refer all parties interested to the U. S. Department of Agriculture (Bureau of Plant Industry), which has taken up the subject and is also in communication with Mr. Moulié, who, by the way, was at one time a resident of Algiers, where the agitation of the subject first started.

* * *

In a way the discovery of that lone soap tree in Florida is a disappointment to us, for as recently as March 14, Mr. Moulié wrote: "If Florida shall grow that tree it will be due to the publication of your article in February SOAP JOURNAL. Florida owes your paper a great deal already for what you have done for her in the past."

This was written when Mr. Moulié still believed it necessary (and had already made arrangements) to import the tree from Algiers. A week or two later the tree was discovered, present for twenty years already, but previously overlooked; no thanks due to the SOAP JOURNAL for that.

We are quite proud to publish the following testimony to the thoroughness with which the SOAP JOURNAL follows the scent of the soap kettle to the remotest regions:

AMERICAN SOAP JOURNAL.

Dear Sir: I am one lone American, located here in Central Asia, and as among other things that are manufactured here (on the Imperial Domain of the Czar), I make soap. I feel that I cannot spare even one copy of your JOURNAL, which in the past two years has given me much information that I should not have received had your papers all been mis-directed, as was your February number. It is a long way from civilization to this place, and I trust you will in the future address your papers as follows. Sincerely yours,

GEORGE F. MAYNO,
Ass't Mgr. Mills of the Imperial Domains.

The Illinois Laundrymen had a practical discussion about soap at their annual convention in Bloomington a month ago. As taken from a report of the proceedings, there had been submitted two questions which were discussed as follows:

Question: "What per cent. of soap can be saved by using soft water?"

Mr. Fitch: "It would depend on the degree of hardness and cost of softening."

Mr. Norman: "We condense our steam and use from tank. We use hard water for rinsing. Using our condensed steam returns for washing instead of for boiler supply makes it a little more expensive for fuel, I know, and also in care of the boiler. We have to cut the flues out of the boiler occasionally, have them cleared and put in again."

Secretary Fitch: "I have the Tweeddale system and it saves 33⅓ per cent. of the soap."

Mr. Porter: "Mr. Norman, would not the use of boiler compound be economical?"

Mr. Norman: "I am afraid to use it because of its effect through the steam in the wash water."

Mr. Porter: "I use a boiler purge. Wash the boiler out every two weeks and put in from one to one and a half pounds of soda ash. I have never had to take out a flue. We pour the soda ash solution into the boiler through the water column."

Question: "How do some launderers wash at an expense of 1 per cent. for soap? Are they liars or ignoramuses?"

Secretary Fitch: "I don't believe it will cost more than 1 per cent. if you have soft water and other reasonable conditions."

Mr. Lutes: "If Mr. Fitch cannot wash for 1 per cent. he ought to go out of business. I mean, of course, bundle work at fair prices."

A Member: "I think it can be done with soft water. I have been in business eleven years. Have made my own soap during all that time. I run only a small plant. Suds in rain water, which I consider better for washing than distilled water. My soap costs me less than 1 per cent., and I am not guessing at it. I know what it costs. This refers to the cost only of the stock—the tallow and soda—and does not include any allowance for steam or time used in making the soap."

Mr. Gieske: "My soap costs me 2 per cent."

Mr. Swanson: "There is no doubt in my mind but what many wash for 1 per cent. I have no water softening plant. It costs me, with lake water, 1¼ per cent. and I have considerable flat work. All bundle work I am sure would not cost me more than 1 per cent."

FROM OUR CORRESPONDENTS

SOAP TREES OF FLORIDA.

Jacksonville, Fla., April 25, 1905.

Editor American Soap Journal:

Since your publication of the articles on the "Soap Tree of Algeria," in your issues of February and March last, I have had a lively time, as you will see by the following: These articles coming at the very time when the question of protecting what is left of our forests and the reforestation of the devastated parts, is generally agitated, and very earnestly at that, I thought that a new element in the shape of the "Soap Tree" might prove beneficial in this and other states, and acting upon that impression I immediately wrote to Mr. Kidder, the U. S. Consul at Algiers, sending him money to the effect of obtaining seeds and cuttings from the Algerian tree. This was on Feb. 11, the very day I received your paper. On second thought, and fearing that on account of the distance, the cuttings could not reach me in proper condition, I again wrote him on March 1, asking for rooted plants at my expense. On the same day I also wrote to the "Forester," U. S. Department of Agriculture, asking for data concerning that tree if any were available. The reply to this was that due attention would be given to my request, suggesting at the same time that I would do well to write to the Director of the State Experimental Station, Berkeley, Cal., which I did, and under date of March 20, 1905. The reply to my letter reads as follows:

Berkeley, Cala., April 4, 1905.

Mr. E. Moulié.

Dear Sir—Yours of the 20th ult. has been referred to me by Prof. Hilgard, of this station. I believe that one or two trees of Sapindus indicus were planted a number of years ago on our grounds, but a few years ago a new road was constructed through the experimental grounds and some of the trees were moved. In all probability the trees of sapindus were lost in the moving or destroyed, as I fail to find them on our grounds at present.

Regretting that I am unable to give you the cuttings as requested, I remain, very truly yours,

(Signed.) A. V. STUBENRAUGH.

Some days previous to the arrival of that reply, on March 18, I had contributed an article in one of our papers, the Daily Florida Sun, headed "The Soap Tree for Florida." The article begins with this editorial note: "For the raising of all trees and plants, needing a soft soil for their proper propagation, Florida is peculiarly adapted. It is now highly probable that a new industry can be opened up for Florida farmers to engage in,

and Prof. E. Moulié has already taken the first steps towards opening up their new field. The American Soap Journal in its issue of Feb. 1, contained the following:

Then follows the artiele in full and also the article of your issue of March 1, following which, were also printed my letters to the American Consul at Algiers; my letter to the Forester and his reply, and finally the article winds up with the following editorial: "Prof. Moulié has resided in Algeria and being well acquainted with the soil and elimatie conditions there, was prompted to open up this correspondence, because he believed that conditions in Florida were sufficiently like those in Algeria to warrant the belief that the 'Soap Tree' can be successfully cultivated in this state.'

My belief was well founded as the following demonstrates:

Ocala, Fla., Mareh 29, 1905.

Prof. E. Moulié, Jacksonville, Fla.

Dear Sir: I have read with eonsiderable interest your article in the "Daily Florida Sun" on the "Soap Tree for Florida." The object of this letter is to inform you that I think I have a tree of the variety to whieh you call special attention: viz: Sapindus utilis.

The tree I have was planted here from the seed brought from China by the Rev. Benjamin Helm, who was a Presbyterian missionary in that field..

The deseription of Consul Kidder suits almost exactly my tree, exeept that the body of mine is short, which, no doubt, was oecasioned by some defieit when quite small. My tree must be now about twenty years old, and the body about sixteen inches in diameter, with a spread of limbs of about thirty-five feet from the extremities.

My tree has been bearing for a great many years and I suppose the annual crop would amount to three or four barrels. I have never used it exeept to show strangers how good a substitute these balls were for soap.

There are now a goodly number of small plants which sprang up in the past few months, or possibly nearly a year.

There are thousands of balls (grew up) now on the grounds, which I suppose would grow if they were planted.

The tree can be seen here in my yard as well as the balls now on the ground. Very truly,

(Signed.) J. H. Livingston.

To that letter I replied at once, requesting Mr. Livingston to send me "balls" and plants at my expense, offering to pay a reasonable price for them, but Mr. Livingston being a progressive man, knowing that my efforts were directed towards the interest of the state, simply brought me plants and balls (we will call them berries) without the smallest compensation.

It is then, that I sent you my telegram: "Florida has Sapindus utilis 20 years old.'

On the next day, I took the seeds from the berries and planted them; I also planted the small rooted plants, numbering 11, and, at this writing, they begin to show signs of growth.

Then came the replies to my letters to Mr. Kidder, under the signature of James Johnston, who had succeeded Mr. Kidder as American Consul at Algiers. Mr. Johnston, in returning the money sent by me, informs me that "the inquiries and applications eoncerning the soap tree had been so numerous that it had been found necessary to refer the matter to the Department of Agriculture, and that *it is now attended to.*

He suggests that I eommunicate with that department (Bureau of Plant Industry), adding that he "had no doubt that my wishes would have prompt attention." (The foregoing is the reply to my first letter.)

The reply to my second letter came promptly and reads as follows:

"Since writing my last letter I have been eommunicating with the Jardin d'Essai of Algiers and have received the following information:

"This is too late now to send either seeds or euttings of this plant. Planting must be done from December to February, and sowing in January, February and early in March. It is desirable to sow in each of these months, so as to see which gives the best results. This, of eourse, applies to the climate of Algeria, but the differenee between it and that of Florida cannot be very great. It would be more eonvenient to raise the plant from seed, but the fruit in this case is smaller than when young trees are planted. The trees for planting measure from a metre to a metre and a half; mere offshoots would not bear the transportation. The prices of these plants vary from Fcs. 1 to 1.50, but the packing is extra, and the freight would be a heavy eharge unless large quantities were taken at a time.

"The price of the seed is four franes per kilogram; paeking included. They could be sent by parcels post, so that you eould know exactly the amount of the money order to send when ordering the seed. Money orders should be made payable to "Monsieur le Direeteur du Jardin d'Essai, Algiers, Algeria."

"Very truly yours, (Signed) James Johnston,

"American Consul."

On the 10th inst. I acknowledged reeeipt of the two foregoing letters and I also sent by mail some of the berries I had from Mr. Livingston and requested Mr. Johnston to compare the said berries with the Algerian ones and to kindly inform me of the results of the eomparison. I also asked him to inform me of the price of

the "whole berry with seed in," by 100 kilog., supposing that the price given for seed meant the seed proper without the fleshy part. The reply to this cannot materially be expected before the 10th of May or so.

My next step was to ascertain the botanical name of *our Florida tree* and to that effect I sent to the Bureau of Plant Industry, berries and twigs. The reply came under the familiar signature of "Lyster M. Dewey," Troy, familiar because, some ten years ago, he it was who identified my "Mentha Citrata" plant. I think it is of great importance that Mr. Dewey's letter be published in full. It reads as follows:

OFFICE OF BOTANICAL INVESTIGATIONS AND EXPERIMENTS.

Washington, D. C., April 12, 1905.

Dear Sir: Your letter of April 5, enclosing fruits and leaves of a Sapindus tree for identification, has been received and the specimens have been referred to the U. S. National Herbarium, where the plant has been identified as *Sapindus Manatensis Radlk.* This tree has oval fruits 2 cm. broad, and glabrous foliage. The common soapberry tree, *Sapindus Saponaria,* is globular, 1.5 cm. diameter. The twigs and lower sides of the leaves are tomentose, and the leaflets are not acuminate as are those of *S. manatensis.* Another species occurring in Florida is *S. marginatus.* This species has globose fruits, and the twigs and infloreseence pubescent. The rachis of the leaves are distinctly margined. *Sapindus manatensis* is known only from near the mouth of the Manatee river. I would, therefore, be pleased to learn where the specimen which you sent came from, and whether the plant was growing wild or had been introduced in cultivation. So far as we can learn, *S. manatensis* has about the same soapy properties as the other species. The fruits are returned herewith, as requested, one being kept for the National Herbarium.

"Enclosed please find franked envelope for reply.

"Very truly yours,

(Signed.) LYSTER H. DEWEY.

Botanist in Charge of Fiber Plants.

On April 15, in reply to the above, I sent *all the correspondence* bearing upon the matter, including the copies of my own letters, requesting return of same, adding that I needed them for my contribution to the AMERICAN SOAP JOURNAL, for the issue of May, said contribution to be on the subject of the Soap Tree.

And under date of April 21, all my papers were returned, accompanied by a letter from the same office, but under the signature of W. W. Stockberger, Acting Physiologist, asking me to send him a copy of my article in the Daily Florida Sun for permanent record and also to send him, when completed, a copy of my article which is to appear in the AMERICAN SOAP JOURNAL in the issue of May, for the files of their office. (Kindly send a copy of your paper as requested, addressed as follows: "Mr. W. W. Stockberger, Acting Physiologist Bureau of Plant Industry, U. S. Dept. of Agriculture, Washington, D. C." (I send from here the copy of the other paper.)

When I have added that I have sent samples of berries to parties in St. Louis, Mo.; Chicago, Ill.; New York and Germany, you will see that I have had a lively time in my endeavor to show conclusively that the soap tree is actually and positively a Florida product and that no doubt can be entertained as to the possibilities and probabilities of development within all reasonable limits.

It must be observed that the qualification *"utilis"* of the Algerian tree has been added in view of demonstrating *the usefulness* of the tree on general principles; consequently, this can apply, properly, to the Florida tree, the characteristics of the whole being identical with the Algerian tree, and I move and beg that you second the motion that the Florida tree be called *Sapindus manatensis utilis FLA.* and so recorded for future reference.

Thus, it happens that, while from the report of Consul Kidder, the most that could be hoped for, was the possibility of growing that soap tree *in the Southern States and in the milder parts of California,* Florida had that same tree already 20 years old and perhaps older ones, which will be found later on, and two other species besides, the usefulness of which cannot be doubted; and that precious discovery is due to the publicity given by you, in your paper, to Mr. Kidder's report. When I have received the many replies expected and the prices of the berries at Algiers, I shall keep you posted for the benefit of your readers, and just as I thought of closing this long article, I perceived that I have forgotten to mention that I had also a letter from the office of Foreign Explorations, signed David Fairchild, Agricultural Explorer, the importance of which is palpable. That letter is the reply to my letter to the Chief Bureau of Plant Industry and reads as follows:

Washington, D. C., April 12, 1905.

Mr. E. Moulié.

Dear Sir: Your letter to the Chief of the Bureau of Plant Industry, regarding the cultivation of the Soap Tree, has been referred to me. *I had a conference with Mr. Kidder,* former Consul of Algiers, and it will give us pleasure to look into it, and if you are anxious to experiment with this plant we will endeavor to get a small quantity of seeds for you. I am under the impression that this plant has already been grown in a small scale in Florida, in some of the botanical collections, and if this is the case, we can probably secure seeds for you without sending abroad for them.

Thanking you for your interesting letter, I remain,

Very truly yours,

(Signed.) DAVID FAIRCHILD,
Agricultural Explorer.

To the above I replied, under date April 15, and said in part: "I would be glad to have you and Mr. Kidder procure me, or help me to procure, from Algiers, the seeds and even tree, to be planted here next fall."

Now, my dear doctor, pardon me for such a long communication for the sake of the intention.

E. MOULIE.

New Soap-Mill.

Specification Forming Part of Letters Patent No. 786,125, dated March 28, 1905.

To All Whom It May Concern:

Be it known that I, John N. Hinkle, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful improvements in soap-mills; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

So far as I am informed, soap has heretofore been milled by passing it through stone rolls; but I have found it impracticable to mill—that is, grind and mix in perfume and coloring matter where the soap has for its base vegetable oil—without leaving more or less flaky and streaky.

The object of the invention, therefore, is to provide a machine in which this work can be successfully performed; and the invention consists in the construction hereinafter described and claimed.

In the accompanying drawings Fig. 1 is a side elevation of a machine according to the invention; Fig. 2, a top plan view; Fig. 3, a vertical section of part of Fig. 2; Fig. 4, a horizontal sections of part of Fig. 3. Figs. 5, 6, and 7 are views of the several perforated milling-plates.

In the several views, 1 designates a suitable frame upon which the milling-chambers are supported.

2 designates the primary or first of the chambers. This chamber is nearly elliptical in cross-section and is mide so as to receive a pair of parallelly-arranged screws 3 3, the threads of which preferably intervolve. The shafts 3a 3a of the screws 3 3 are journaled at their right-hand head of the chamber, and said shafts project beyond said head and are provided with meshing gears 3b 3b of equal diameters, so that said shafts can be turned synschronously. At their left-hand ends the shafts 3a 3a are conveniently journaled in the perforated plate 4, which is fitted in the corresponding end of the chamber 2. The second chamber, 5, is located to the left and below the first chamber. It is mainly eylindrical in form, but is enlarged above its right hand end where it is joined to the first chamber, as seen in 5a, so as to afford an inlet for the soap exuding through the perforated plate 4. The second chamber 5 is provided with a feeding screw 6, the right-hand end of the shaft 6a, of which extends back under the first or double-screw chamber, so that a pinion 6b thereon may engage a pinion or gear 3e on one of the shafts 3a. The left-hand end of the shaft of the screw 5 projects through and is supported in a perforated plate 7, fitted in the left-hand end of the chamber 5.

8 designates a third chamber into which the soap discharges from the chamber 5. This chamber is shown to be of slightly-tapering form and to be provided at its left-hand end with a perforated plate 9. The end of the shaft 6a, where it projects into the chamber 8, is provided with a star-shaped wheel 10, which cnts, stirs, and mixes the threads of soap as they exude through the plate 7.

In practice the holes or perforations of the several diaphgram-plates 4, 7, and 9 will be nniform in each plate, but different in the different plates. For example, the perforations of the plate 4 will be of half-inch diameter, those on the plate 7 of quarter-inch diameter, and those in the plate 9 of eighth-inch diameter.

The chamber 2 is provided with a hopper, 2a, through which the soap to be milled is passed into the machine.

The right-hand end of the shaft 6a is shown to be provided with a large spur-gear, 6c, and this is shown to be engaged by a pinion 11 on a power driven shaft 11a, suitably supported in standards 1a, supplemental to the main frame.

In operation the unmilled soap is supplied in chips with the coloring-matter and perfumery through the hopper 2a into the first chamber. The soap is then forced by the screws 3 through the first perforated plate 4 into the enlargement 5a of the chamber 5. From this point the screw 6 takes the soap, forcing it through the chamber 5 and perforated plate 7 and also crowding it through the chamber 8 and perforated plate 9. In its passage through the chamber 8 the soap is stirred with the transversely-rotating star-wheel 10.

It will be observed that with this machine the soap is first subjected to the crowding action of the intervolving screws, being thereby forced through plate 4, which divides it into many threads that are subsequently united and again crowded through the second dividing-plate 7, and after this laterally stirred and crowded and finally divided, thus thoroughly mixing the coloring-matter and perfumery with the soap, making it properly ready for molding into cakes or bars.

What I claim, and desire to secure by Letters Patent, is:

1. In a soap-mill, the combination of a first and a second chamber, the first located above the second, a hopper or supply opening to the first chamber, feeding-screws in both said chambers, a perforated plate between the discharge end of the first chamber and the inlet end of the second chamber, and a perforated plate at the discharge end of the second chamber.

2. In a soap-mill the combination of a first and a second chamber, the first of which has an opening through which soap can be supplied thereto, a perforated plate or diaphragm between and dividing said chambers, feeding screws in said chambers for forcing the soap out of the same and through the perforated plate or diaphragm.

3. In a soap-mill, the combination of a series of three chambers, perforated plates between the adjoining chambers and at the end of the third chamber, feed-screws in the first and second chambers, and a stirring-wheel in the third chamber.

4. In a soap-mill, the combination of two chambers, the first arranged above the second and the second provided with an enlargement in line with the exit end of the first, a perforated plate at the exit end of the first and feed-screws in said chambers.

5. In a soap-mill, the combination of two chambers, the first arranged above the second, and the second provided with an enlargement in line with the exit end of the first chamber, feed-screws in both chambers and means for simultaneously operating the screws of both chambers.

Knows Much That Isn't So.

A Massachusetts druggist has lately delivered himself of a bunch of opinions on the perfume business in which he explains to his own satisfaction—though possibly to no one else's—just what is the matter with the perfume business. It would appear, according to this communication in the Era, that "the American perfumer has not advanced," for his "product is no good," and his "specials" are simply "old odors dished up under new names and new prices" because of his ignorant and mistaken "belief that the success of the French goods is due to the higher prices asked." On the other hand it is alleged the druggist says to himself, "if I buy the French goods I will know I have the best." One druggist, probably.

The New Idea has its own opinion about the state of education of the nose of any druggist who will claim that better goods are produced by French perfumers or by diluting so-called "concentrates" than the principal American perfumers are turning out! However, the letter is of value chiefly insofar as it goes to show that there is yet a remnant of the once large class of Americans who humbly worship anything that bears a foreign label, regardless of its real merits.

There is no more doubt that American perfumers are simply cutting circles and figure eighths all around the French perfumers to-day than that Detroit is in Michigan. The best American houses use flower pomades—French perfumers have run mad over synthetics. Our druggist friend concludes that because there is an increase in the importations of French perfumes the American perfumers are not holding their own in the home market. He evidently does not know that the increase is the smallest for years. Is he in position to say that the growth of the American trade is not proportionately far greater? Not unless he knows the amount of business done by each American house, which is highly improbable. Anyway it is greater. He says that French perfumes are not advertised. Nearly every popular magazine refutes his statement—for French perfumes are liberally advertised.

Finally, however, he unwittingly gives away his whole case by complaining that the department stores control the perfume business! Why shouldn't they get the business away from a druggist who runs after foreign goods, tries to compete with department store prices and then figures on "getting a profit from home-made perfumes?" There is nothing very hard to understand about this case.

If our friend will stock a standard American line that department stores cannot buy, if he will give his customers true flower odors for their money, he will not have to resort to cut prices and home-made "perfumes" (save the mark!). And he will be in position to write a more cheerful, as well as more patriotic, letter the next time he wishes to break into print.—*The New Idea.*

Last Chance To Buy Soap.

He bought a big jag of canned tomatoes, says the Commercial Bulletin, because he had heard his competitor had done the same, and because the salesman told him it was the last chance.

Rumor had it that brooms would advance and when the man from the factory came along he "loaded up" because he understood it was the last call on the old prices.

His old friend, the soap man, wrote him that tallow was going up and soap was sure to advance. He wanted to let him in on the old price for three times the usual order, and it was the last chance.

That same day a well dressed young man he had seen once before ran from the briefly tarrying freight train to the store, and, all out of breath, informed him that

axle grease would advance ten cents per case sure, and this was the last chance.

His coffee man called, wearing an anxious face. Cheap coffees were going up a half-cent sure. How much would buying now save him? Why, the more he bought the more he would save, and this was the last chance.

Through the door came the tobacco man with his "if and if" offer. If the dealer bought so many pounds of so many kinds, he would receive so many pounds of other kinds free, and so many coupons which, if enough were finally collected, would entitle him to a front seat in heaven, and this was the last call.

"Queer world this, muttered the merchant as he went about his work. "Everything going up or being given away, nothing coming down."

"What's that?" asked the clerk.

"Nothing coming down," was the doleful reply, 'and this is the last chance to get in before the rise or to get something for nothing."

Just then the newspaper man came in. "Say," he said, "I thought you intended to run a big ad. this week on that sacrifice sale of surplus goods you've been figuring on. We go to press to-morrow and this is the last chance."

The Soap and Candle Maker of Australia.

Australia plays no inconsiderable part in the world's tallow production, and the exports from the port of Sydney alone indicate the amplitude of our pastoral resources. It is only of late years, however, that our animal and vegetable fats and mineral oils have been converted locally in anything like reasonable proportion into soap and candles. But both industries appear to be now well established, though judging from the statistics we are still enormously behind the times. As to common soap local production has long practically met local demand. It would have been sheer absurdity had that not been so, because despite the handicap on such industry which shortsighted labour laws may impose the freights on such a low-priced and bulky commodity must have made it profitable to convert the raw material on the spot. But in toilet soaps and tablet soaps generally the battle to establish home products has been a heavy one. Its manufacture involved an investment of large capital, because many hands and elaborate machinery were essential. That gave foreign concerns, assisted as against us by freer labour conditions, a sound opening to compete and make it at least risky for the establishment of local concerns. Before federation the interstate Customs duties operated against home production by restricting the market to the particular State wherein the industry would be established, and the market of a single State would not represent a demand sufficient to warrant necessary outlay in plant and maintenance. But with the larger market of all Australia a new inducement was presented, and now all that the manufacturers have to do is to overcome the prejudices of people in favour of oversea soaps by capturing their fancies for the local goods. The largest works in the State are situated at Balmain, and are said to have involved the sinking of half a million of money in land and plant. There are smaller competitors, too, and although the total employees are something under 400 in number, the industry is a good one. Candle-making has not reached the large proportions in New South Wales that it should, but its prospects are by no means disheartening. There are some good stearine plants in Australia, and much of the material has been exported in bulk. The imports of candles in Australia ran into 3,000,000 lb. in 1903, and perfumed soap 755,275 lb., while of other soap the imports were under 200,000 lb. The total hands employed in New South Wales in the soap and candle industry is something over 500, and as the proportion of machine to manual labour is very large in those industries, the substantial nature of their establishment here may be fairly gauged. The industry is a healthy one so far as the employees are concerned, and the attainment of a maximum local conversion of our fats and tallow into soap and candles should not be far distant.

The women of Pompeii used soap. That is history, and there is the amplification that their primary object was not so much to cleanse themselves or the garment as to make their long tresses the more lustrous. But history does not say whether the soap man called at their houses, as he does in these modern times, and bartered soap for kitchen fat, which, in turn, was changed to soap under his guiding hands. The chroniclers failed to that extent, but the discovery of an admirable soap-making plant and some well-preserved pieces of soap in the ruins would justify the assumption that the industry had long outgrown the crude methods involved in kitchen fat transformation. There is a very easy way of making soap, and very dubious, indeed, is the product. The economical housewife knows the art, practices it, and loses money in the long run, by it. The maker of cheap soap improves on the domestic system, though not by much, judging by the ultimate product. His system is the cold process. He gathers the fats of various sorts, perhaps he adds some tallow, or, if he has a turn for luxury, a little cocoanut oil may be spilt into the compound. These fats he melts up at the lowest possible temperature and then mixes in a lye made of caustic soda and water. This mass is agitated till it saponifies, when it is stood aside for a few days to cool off. Then it is soap ready to be cut into bars, and traded off to the con-

sumer. It is a poor material, essential, perhaps, in these days of keen competition and demand for the lowest-priced articles, but it is full of free alkalies which are destructive of fabric, and "scorching" to the hands that use it. In this crude soap there is a proportion of glycerine, the properties of which are, however, negatived. The cold process is used by some makers for really good soap, but then the ingredients are the finest, being scientifically purified, and the glycerine has full play for its emollient properties.

In the manufacture of higher grade soaps animal fats and vegetable oils are used, such as tallow, greases, palm oil, lard, and cocoanut oil. They are admixed with alkalies, acids, resin, and other chemicals for the purposes of securing saponification and imparting the highest degree of cleansing power where the soap is for other than toilet purposes. The first process converts the fats or oils, or both in ascertained proportions into crude soap, and with that as a general base the soapmaker proceeds to suit his market. The primary ingredients differ, however, from different qualities of base. The maker who wants a good household yellow soap need not use too nice a discrimination in selecting his fats or oils, whereas for high-class soaps the better the beginning the better the end. Then in the rougher soaps the finishing processes are not nearly so complete as are essential for the finest goods. But in all well-appointed soaperies nowadays the manufacture is an involved scheme, because the aim is to eradicate from the mass of soap as much free alkali as is consistent with the price obtainable for the bar or tablet. The average yellow or household soap carries free alkali—the soda may often be seen exuding from the drying bar—while in the cheap sorts much water is left. The very common soaps are "filled" or adulterated, so that, though they are low-priced, they may really be expensive.

The evolution of a cake of soap was followed through at the works at Balmain, and the processes in vogue there cover the whole story of modern soapmaking. Tallow, bought in the open market, is rolled in its barrels on to the broad staging of the melting-out house. Steam jets play through the open bungholes, and the tallow, melted, streams out through sieves to tanks placed below. That is a first and rough cleaning, to be followed by an elaborate scheme of filtering. The purified tallow is pumped into huge "coppers" of a capacity of 60 tons each. Other oils are added from times to time, and alkalies are introduced. Steam-pipes are set to work, and the mass is boiled two or three hours a day for four or five days till it begins to thicken and saponify. Then common salt is added to separate the water from the soap. There is more boiling, and by-and-bye the "lees" or waste is precipitated and removed. With the aid of more chemicals, the saponification is completed, and the soap, now absolutely devoid of free alkali, is led away into "crutching" pots, where it is worked free of air bubbles, and where perfumes and tints are added. It next descends along running troughs into cooling frames, where it rests for about a week. When it is comparatively hard and dry the frames, which are collapsible, are drawn away, leaving the rectangular masses free for the operation of travelling cutters. These are frames of taut wire, which passes through the standing masses and cuts them into slabs. Other cutters reduce them to the proper size and weight, and the pieces so prepared, after further drying, are stamped into their allotted shapes and boxed or parcelled ready for sale. That is the progress as applied to household and laundry soaps. Toilet soaps have a longer and more intricate journey to travel before they reach the public. After being cut into bars they are stacked to dry for some months. When fully air-dried they are torn to shreds by machinery, and treated in a hot-air plant till all surplus moisture is struck out. "Milling" follows. The shredded soap is passed between granite rollers, fastening on one of them in a homogeneous sheet. This sheet is met by knives, which cuts it into tapes. They in turn are gathered into the hopper of a compressing machine, which forces the compound through a small square exit till the soap emerges "plotted"—Hard and evenly set. It is cut in lengths, stamped, and boxed ready for market.

Meantime the dregs from the great coppers are being operated upon in a complex and elaborate machinery plant. All the salt that was added for precipitation purposes is extracted, to be used over and over again with little, if any, loss. The alkalies also are conserved, but the most valued commodity is the glycerine which is found in all animal fats. It is found in the first lees in the proportion of about 5 or 6 per cent., and for its salvation there is a valuable plant of steam pans and vacuum cylinders. After its first distillation the glycerine is in the form used in the manufacture of high explosives; the second distillation gives a low-grade commercial commodity; after the third passage through the stills the glycerine is water-white, as pure as science demands it. Before leaving soapmaking, a word may be added regarding transparent soaps. These are not made at the Balmain works. They are made either by the use of sugar in the "cold process" or by dissolving good dry soap in alcohol (which is later stilled off) and keeping it warm for several months. Glycerine is added to good soap to make glycerine soap, because except in low grades it is always removed from the fats in the process of saponification.

The making of modern paraffin and stearine candles is a far cry from the old tallow "dip;" yet no very elaborate machinery is essential. Nevertheless there are

some very costly plants, where the output is great. Wax candles are made by rolling, but the general household article—the stearine and the paraffin candle—is cast in moulds. Stearine is a chemical product of tallow and palm oil, digested together in a copper vessel. Paraffin is mainly produced from shale, though large quantities are got from crude petroleum, and smaller quantities from brown coal. What has given us comfort in association with candle light is the supercession by the plaited-cotton wick of the old-fashioned twisted wick, which used to gutter and split if it were not assiduously snuffed. Without that invention the steadier-burning compositions would have been useless. The actual moulding of the candles is simple. There is a frame of hollow iron moulds, each the size and shape of an inverted candle. At the bottom of each a hole is pierced large enough to admit the wick, which is drawn to the top frame and centered. When all the wicks are placed the melted stearine is poured over the frame, and when it has shaped the whole is suddenly cooled with water. The conical points of the moulds are moveable, and as they drop the candles are pressed upwards and out into the frame. The wick follows from its reels below till it is set in another top frame, and so the process is repeated.

Egyptian Soap Trade.

The production of soap in Egypt has not proved very successful, and the output of the local factories has shown a considerable falling off, says the Austro-Hungarian Consul at Alexandria. The native household soap cannot compete with the article imported from Syria, which has a strong hold of this market, and of which increasing quantities are being imported.

Report on the Titer Test.

The Government Bureau of Chemistry has published the results of the year's co-operative work by a number of leading American agricultural chemists on the titer test in the saponification of fatty acids. In his report the referee in charge, L. M. Tolman, details the work done by the various chemists, chiefly with the Dalican and Wolfbauer methods, and draws these conclusions:

(1) The method of preparing the fatty acids for the test is immaterial, and the analyst should be allowed to use the method which seems most convenient to him. There is some danger from fire in alcoholic saponification, but this method is quicker and there is less likelihood of incomplete saponification, though, as Mory has shown, this question is not a serious one. A number of chemists hase used methyl alcohol and find it equally satisfactory and much cheaper. The alcohol should be completely removed where the alcoholic method of saponification is used. The scheme given in the Dalican method effects this removal completely.

(2) The fatty acids should be dry. It seems to the referee that a careful study of the results of this year will prove that the method outlined in the Dalican scheme, i. e., filtering and drying twenty minutes at 100° C., is sufficient and convenient, but does not change the titer.

(3) The method of stirring is the chief factor in the difference in titer, and extraordinary care should be taken by the operator to follow exactly the method prescribed in order that comparable results may be obtained.

(4) The Wolfbauer method of stirring gives higher results, especially on fats of a low titer; it gives more uniform results where there is a variation in temperature; it is the more scientific, and gives more nearly the true titer.

(5) There should be a standard thermometer for titer tests, so that all thermometers used for this purpose would have the same size bulb, the same length of stem, and be made of the same kind of glass, and thus a stem correction could be accurately applied, or else the thermometers should be standardized under the conditions under which they are used. The latter would seem to be the more satisfactory plan.

The associate referee offers the following tentative method for criticism and discussion, hoping that there will be a full expression of opinion:

Weigh 5 grams of fat into a metal dish and saponify by using 60 cc. of 30 per cent. sodium hydrate (36° Baumé caustic soda) and 77 cc. of 95 per cent. of volume alcohol, or 120 cc. of water. Boil down to dryness, with constant stirring, to prevent scorching. This should be done over a very low flame or over an iron or asbestos plate. Dissolve the dry soap in a liter of boiling water, and if alcohol has been used boil for forty minutes in order to remove it, adding sufficient water to replace that lost in boiling. Add 100 cc. of 30 per cent. sulphuric acid (25° Baumeé sulphuric acid) to free the fatty acids, and boil until they form a clear, transparent layer. Collect the fatty acids in a small beaker and place on the steam bath until the water has settled, then decant them into a dry beaker, filter, using a hot-water funnel, and dry twenty minutes at 100° C. When dried, cool the fatty acids to 15° C. to 20° C. above the expected titer and transfer to the titer tube, which is 25 mm. in diameter and 100 mm. in length (1 by 4 inches) and made of glass about 1 mm. in thickness. This is placed in a 16-ounce, salt-mouth bottle of clear glass, about 70 mm. in diameter and 150 mm. high (2 4-5 by 6 inches), fitted with a cork, which is perforated so as to hold the tube rigidly when in position. The thermometer, graduated to 0.1° C., is sus-

pended so that it can be used as a stirrer, and the mass is stirred slowly until the mercury remains stationary for thirty seconds. The thermometer is then allowed to hang quietly, with the bulb in the center of the mass, and the rise of the mercury observed. The highest point to which it rises is taken as the titer of the fatty acids.

The fatty acids are tested for complete saponification as follows:

Three cc. of the fatty acids are placed in a test tube and 15 cc. of alcohol (95 per cent. by volume) added. The mixture is brought to a boil and an equal volume of ammonia (0.96 sp. gr.) added. A clear solution should result, turbidity indicating unsaponified fat. The room temperature must be reported.

The referee had a thermometer made which removes some of the difficulties. It is graduated in one-tenth degrees from 25° C. to 60° C., and has a bulb which allows the temperature to rise much higher without injury to the thermometer. This instrument can always be immersed in the fat to a definite point, and thus the error due to the rising of the mercury column above the liquid will always be the same.

Printerman Fables.

THE PROUD MAN.

This is the Man who has had a Notice in the Paper. How proud he is. He is stepping Higher than a Blind Horse. If he had Wings, he would Fly. Next week the Paper will say the Man is a Measly Old Fraud, and the Man will not Step so High.

THE FOREMAN.

Who is this Ferocious looking Man? He is Foreman in a Printing-office. He gets Paid for Throwing Men Down Stairs when they Come in to Lick the Editor, and for Putting wrong dates at the Head of the Paper. He can Pi more type in fifteen Minutes than Seven Printers can Set up in Two weeks. He loves to ask the Editor for Copy. If it were not for Him, the Paper would Look pretty Well every morning. Everything would be Fat and none of the Live Ads. would be Left out.

THE PROOFREADER.

See the Proofreader. He has been reading the Proof of a Medical Convention. He is not swearing. He is reading the Bible. You can not See the Bible. It is Locked up in an Iron Box in the Editor's Room. The Proofreader is Saying something about Damming Something. Perhaps it is the Creek.

THE PRINTER.

Behold the Printer. He is Hunting for a Pickup of half a Line. He has been Hunting for two Hours. He could have Set the half Line in Twenty Seconds, but it is a Matter of Principle with him Never to set what he Can pick up. The Printer has a Hard time. He has to Set Type all Night, and Play Pedro for the Beer all day. We would Like to Be a Printer were it not for the Night Work.

THE EDITOR'S KNIFE.

Here we have a Knife. It looks like a Saw, but it is a Knife. It belongs to an Editor, and is used for Sharpening Pencils, killing Roaches, opening Champagne bottle, and Cutting the Hearts out of Bad men who Come into the office to Whale the Reporters. There is Blood on the Blade of the Knife, but the Editor will Calmly Lick it off, and then the Blade will be as clean and Bright as ever.

THE EDITOR'S HOME.

Here is a Castle. It is the Home of an Editor. It has stained Glass windows and Mahogany stairways. In front of the Castle is a Park. Is it not Sweet? The lady in the Park is the editor's wife. She wears a Costly robe of Velvet trimmed with Gold Lace, and there are Pearls and Rubies in her Hair. The editor sits on the front Stoop smoking on Havana Cigar. His little Children are playing with diamond Marbles on the Tessellated Floor. The editor can afford to Live in Style. He gets Seventy-Five Dollars a month Wages.

THE BUSINESS MANAGER.

Here we Have a Business Manager. He is Blowing about the Circulation of the Paper. He is saying the Paper has Entered upon an Era of Unprecedented Prosperity. In a Minute he will Go up Stairs and Chide the Editor for leaving his Gas Burning while he Went out for a Drink of Water, and he will dock a Reporter Four Dollars because a Subscriber has Licked him and he can not Work. Little Children, if we Believe Business Managers went to Heaven, we would Give up our Pew in Church.

THE BAD MAN.

Here is a Man who has just Stopped His Paper. What a Miserable looking Creature he is. He looks as if he had been stealing Sheep. How will he Know what is going on, now that he has Stopped his Paper? He will Borrow his Neighbor's Paper. One of these Days he will Break his leg, or be a Candidate for Office, and then the Paper will Say Nothing about it. That will be treating him just Right, will it not, little Children?—Eugene Field.

Where The Trading Stamp Started.

Wonderful man, Perkins is. Look how he grasped the national craze for licking postage stamps. Result—the first mail-order business. And did P. the Great stop there? No, sir!

"People must lick stamps," said Perkins. "People crazy to lick stamps. Government can't turn out stamps fast enough or cheap enough to supply the demand.

Millions of the proud but honest poor go stampless. What we want is a free stamp, with good, thick glue on its back—a stamp that comes in rows—not a single, quick-lunch stamp, but a stamp that will sate the palate of the hungriest, poorest woman and the greediest, most shiftless man."

That is how Perkins came to originate the trading stamp. Purely benevolent idea. In a short while after Perkins got out our Purple Trading Stamp there were eight million more stamp-lickers in America than there ever had been. People who had never licked a single stamp before now licked whole sheets of them. We used a special brand of antiseptic, bleached, perfumed glue. Children liked our stamp flavor better than vanilla ice cream. Used to cry for it. Great man, Perkins!—Judicious Advertising.

Correspondence "Diplomas."

The diploma idea is great. Hold a diploma over a young person's nose—it don't make any difference what the diploma is for—and he or she will shell out money joyfully. But when you can work the do-it-by-mail scheme, and the be-an-ad-writer scheme, and the get-a-diploma scheme, all at the same time, you simply can't lose. It is a surprise to me that no one has thought of giving away diplomas with soap or breakfast food. "Send in ten coupons cut from the wrappers of Biff's Soap and get a diploma certifying that you are a graduate of Biff's Correspondence School of Clothes Washing," or "Save your box fronts and send forty to the Sawdusta Food Company and receive a graduate's diploma from the Sawdusta Thought Transference School of Higher Philosophy."—Judicious Advertising.

Mrs. Partington Re-Incarnated.

You can't keep back the great tide of modern methods by sitting down and refusing to do as modern merchants do. It's no use to sulk, get up and "mix" with the successful ones.

You figure out that your competitor must be spending $300 or $400 a year for his newspaper ads and that he's real reckless. Don't see how he can afford it. You decide not to be so foolish. Pat yourself on the breast as being too shrewd for that and you figure that you've saved $300 by not spending it. Great scheme! but in the meantime your business is ossifying. The process is slow and you don't realize it. You're doing that which tickles your advertising competitor most to death. By the time newspaper readers have sized him up and given him their trade because he's asked for it, (and that's just what they do) you're a "dead one" and forgotten and your business 'ain't what it used to be."

Just so long as you save (?) your money by not spending it in business getting talk in widely read newspapers just so long will you kick and squirm and groan because business is "rotten." Heavens, man! be logical; reason it out.

You've got the goods, haven't you? Your prices are right, aren't they? When a customer comes in he's used all right, isn't he? Well, why in the name of all that's reasonable don't you get more trade?

You're being forgotten. The schoolboy and girl of yesterday is the buyer of to-day and they don't know you. The other fellow's ads worry you and you know it—if you are real honest with yourself. He's talking to the 7,000 readers of the NEWS and HERALD all the time and you're giving him an exclusive franchise to do it by sitting idly down and figuring out that he can't afford it, and that's just what he hopes you'll keep on doing. Soft thing, that, for him. This is truth—every word of it.

Is there a remedy? Oh, yes. But so far you seem to prefer the disease.—Newburyport (Mass.) News Man.

Free and Unsaponifiable Grease.

Before the annual meeting of the Society of Chemical Industry, Nottingham Section, the latter part of March last, Mr. T. A. Gerrard read a paper on "The Presence of Free and Unsaponifiable Grease in Scouring Soaps." He said that in the textile trade, where soaps are used for scouring, the consumers appeared to pay too little attention to free unsaponifiable fat in soaps. They appeared to be satisfied to take the soapmakers' word for it that the soap contained at least 62 per cent. fatty acids, which would, of course, include combined and free unsaponifiable fat. He had known some soaps to contain as much as 2.7 per cent. unsaponifiable fat, which would only leave 59.3 per cent. of combined fatty acids, which would not be of any use in scouring. A good soap would not exceed 0.6 per cent. unsaponifiable fat. Before really effective scouring can be done the free fat in soap must be neutralized. What contributed chiefly to the unsaponifiable grease in scouring soaps was the oils and greases from which the soaps are made, and unless a good grease was selected, the unsaponifiable grease in the soap was bound to be high. Soap made from white tallow grease was the best for scouring. The following figures were obtained by him in his laboratory and give the unsaponifiable matter in grease from various sources: White tallow, 0.02 and 0.03 per cent.; brown tallow, 0.2, 0.25, 0.65 per cent.; bone grease, 0.4, 0.78 and 2.42 per cent. The latter was a benzine extracted grease in which was some benzine remaining; skin grease, 1.45, 1.8, 2.2, 2.67 and 7.1; oleine, 1.2, 1.8, 1.83, 2.3, 3.7, 5.4, 8.6 per cent. Recovered grease, from 7 to 50 per cent.

All of these were supplied to the soapmaker from which to make soap These figures are given to emphasize the necessity on the part of the users of scouring soaps in paying more attention to the unsaponifiable grease in soap, and if it is found to be more than 1 per cent. it would be useless for effective scouring. Mr. S. J. Pentecost said that Mr. Gerrard had brought forward what was hitherto a neglected point with regard to scouring soaps, and he thought it ought to be acted upon by those connected with the textile trade. We would like to ask Mr. Gerrard what was the cause of so large an amount of unsaponifiable fats in oleines? Mr. S. R. Trotman said he could speak from experience with regard to the effect of free unsaponifiable fat in scouring soap. The cause of the high unsaponifiable fat in benzine extracted greases was due to the extraction not having been done with a suitable spirit. Usually because it contained fractions whose boiling-points were too high, and it was only with difficulty that these heavy portions were removed from the grease. Wool appears to have the property of absorbing greases, and it does not matter how much washing you give wool which has been scoured with a soap containing excess of unsaponifiable grease, it is impossible to remove all the grease. He had performed a number of experiments on hanks of wool in his laboratory; first of all freeing the wool entirely of grease by treatment with ether, then subjecting to scouring with a soap to which excess of grease was added. After washing with water repeatedly—of course it could be removed by treatment with alkali, but this had effect on the fibre—it was found to contain 0.25 per cent. free fat. This had the effect in dyeing of causing patchiness. It is not so marked with cotton goods, because cotton does not appear to retain grease in the same manner as wool. Mr. Archbutt remarked upon the low amount of unsaponifiable matter in white tallow; he would like to know the nature of it. He also thought 62 per cent. total fatty acids rather low. He thought one might expect 63 per cent. The chairman said he was interested in skin grease, and he would like to know what was done with these greases which contained high unsaponifiable fat. Mr. Gerrard, in replying, said that the unsaponifiable fat in oleine was most probably due to over-heating in recovery, and possible adulteration. The white tallow referred to was tallow rendered by themselves, and subjected to treatment with a weak solution of caustic alkali. He admitted that 62 per cent. fatty acids in soap was rather low, but it was as high as the soapmaker could guarantee. He had known soap to turn out even lower than 62 per cent. without any apparent reason. Grease containing high unsaponifiable matter was usually used up to make household and carbolic soaps. Only about 10 per cent. of the soap made was used as scouring soap.

Oleo and Tallow.

After hides, by far the most important by-product of cattle slaughtering consists of the fat from which oleo oils and oleo stearine are derived. That fat, which was formerly used chiefly for rendering into tallow, and which then had a relatively low value, is now called "butter fat," because it is almost wholly used for making oleo products, and oleo oil is the chief ingredient of butterine. The use of the oleo oil for this purpose has greatly enhanced the value of the fat, although recent legislation against the use of coloring matter in butterine has caused a heavy shrinkage in values.

Any good, clean fat from cattle, which can be detached from other tissues or organs, may be used for oleo production. Four main classes of fat are usually distinguished by the large packers (1) The packers make oleo products in part from fat which they buy from retail butchers, who trim it from the carcasses of beef during sale. (2) Again, the packers derive a considerable amount of butter fat from their own cutting rooms in which beef carcasses are cut up for curing and canning. It is evident that in order to ascertain the value of fat in a computation of profits on dressed beef, the fat from the cutting rooms excluded, since the carcass of dressed beef as ordinarily sold at wholesale carries with it the fat which might have been obtained by cutting it up. (3) A small amount of butter fat is also obtained from the trimming of the heart, tongue and certain other organs and parts of the body. (4) The great bulk of the butter fat used by the packers comes from the abdominal region of the cattle which they slaughter. This fat consists of two main parts, caul and ruffle fat, which lies in a continuous layer just inside the walls of the abdomen, and gut fat, which is distributed between the intestines and other internal organs.

Butter fat is rendered in large tanks in much the same way that lard is rendered. The direct product of the rendering consists chiefly of what is known as oleo stock. Oleo stock, which is usually separated into two and sometimes into three grades, is approximately of the same composition as ordinary market tallow, but is much purer and cleaner. A small part of the product from the rendering of butter fat, being of somewhat inferior quality, is not considered edible and so is sold as commercial tallow or transferred to the tallow department. The proportion of tallow, however, is small, varying from about 1 to 3 per cent. A small amount of grease is also derived from the process, and some of the residue is transferred to the tallow department for further rendering. The sum of the oleo stock and tallow, with sometimes the grease added, is what is ordinarily designated by the packers as the total "yield" of butter fat.

By reason of the fact that the sale of oleo stock as

such is wholly at the will of the packer, and that its value, when sold as stock, is very nearly the same as its value when separated into oil and stearine, the packers make it a practice in computing the yield from butter fats to estimate the quantity of oil and stearine which would be derived from the stock not pressed, thus reducing the entire production to the basis of oil and stearine.

Butter fat differs materially in quality and in the quantity and grade of oil and stearine which it will produce. Generally speaking, high-grade cattle have not only large quantities of fat, but their fat yields a larger proportion of oleo stock, and the stock yields a larger proportion of No. 1 oil, than is the case with fat from thinner and lower-grade cattle.

The relative quantity of oleo and stearine derived from stock depends in part upon the quality of the stock, but still more upon the will of the packer. By pressing less closely a larger amount of oil is left in the tissues, making the stearine weigh proportionately more than where the stock is closely pressed. The determination of the proportions to be produced depends in part upon the relative prices prevailing for oil and stearine. Thus during the second half of 1892, when the price of stearine was unusually high, one of the packers shows for his Chicago plant a yield of stearine equal to fully 40 per cent. of the amount of oleo stock, while at the same plant during the first half of 1903 the yield of stearine was less than 29 per cent. of the amount of the stock. On a rough average, about one-third of stearine and two-thirds of oil are derived from oleo stock.

During the second half of 1903 the value of oleo oil and stearine was so low that some of the packing companies preferred to convert a considerable part of their butter fat into tallow rather than to go to the greater expense of producing the high-grade products. Thus, one leading company sent to the tallow tanks during the second half of 1903 about 11 per cent. of the total cattle-killing fat from all its plants, while at one of the plants nearly one-third of the total fat was treated in this manner.

It should be remembered hat a considerable fraction of the oil and stearine produced by all the leading packers is used by themselves in the manufacture of butterine, compound lard and similar commodities.

Japanese Soap in China.

Japan's export of soap to China has been increasing of late. The Chinese have been using a peculiar kind of soap known as "ishi," which is made of animal fat and powdered beans and afterwards spiced with various substances. It is put up in porcelain vessels, which cost from eight to ten cents. The Chinese are beginning to realize that it is more economical to use better soap.

On the Presence of Cottonseed Oil in Lards from Hogs Fed Upon Cotton-Seed Meal.

BY A. D. EMMETT AND H. S. GRINDLEY.

Having had occasion to make for the Department of Animal Husbandry, of the Experiment Station of the University of Illinois, quantitative determinations of cottonseed oil in lards rendered from the fat of hogs fed largely upon cottonseed meal, a more detailed study of the samples was undertaken in order to add, if possible, some information as to whether cottonseed oil actually existed in the body fat of the animals.

That many of the vegetable oils enter into the make-up of the body fat, in some manner or other, there can be but little doubt. Lebedeff and Henriques and Hansen, in feeding linseed cake; Monk, in feeding rape oil and the fatty acids from mutton tallow; Lebedeff and Rosenfelt, in feeding mutton fat, and Shutt, in feeding maize, have shown that the resulting fat differs materially from the normal fat body in appearance and properties—melting point and iodine number.

On the other hand, Radziejewsky, with rapeseed oil, Subbotin with soap, Lebedeff with tributrine, Henriques and Hansen with linseed oil on cows, Bomer, Harrington and Adriance, Virchow, Van Engelen, Solstein, Langfurth, and Fulmer with cottonseed meal, were unable to obtain affirmative results in their feeding experiments, although in almost every instance there were some abnormal changes detected in the fat. In the cases of cottonseed meal some of the investigators found, by the Halphen and Beehi colorimetric tests, as high as 15 to 30 per cent. of the oil.

Thus, admitting that the presence of vegetable oils influence the fat of animals to some extent, the question arises as to how these oils exist in the body fat. Are they assimilated unchanged through the lacteals and thus find their way into the circulatory system, being carried on to the fat cells? Are they first broken up into simpler bodies and then absorbed by the lacteals, or are they subjected to the intricate process of metabolism—saponified by the bile, etc.—and converted into animal fat?

The fact that Monk, in feeding rape oil to dogs, not only found the olein content of the body fat much above the normal, but that he was able to separate eruic acid, a characteristic ingredient, tends to show that in one case, at least, the vegetable oil was evidently absorbed unchanged. On the other hand, since Henriques and Hansen found in their work on the feeding of linseed oil to pigs and dogs, that the same ration may affect the fat of one animal and not that of another; and since Lebedeff in feeding the same animal on different fats—linseed oil and tributrine—was able to detect a change

in the former case but none in the latter, it tends to indicate that the nature of the assimilation of the rations varies under certain conditions—with the animal and kind of animal and with the fat and kind of fat.

To answer this question of assimilation in the case of cottonseed meal-fed hogs, there seemed but one way, as suggested by Hehner in 1880, when European markets were being flooded with adulterated American lards, namely, to actually establish the presence of a vegetable oil. At that time, the solution resolved itself, in the case of cottonseed oil, into the following statement: If a lard gave the Bechi-Maumane test together with a high iodine value and a low melting point, it should be condemned. But in cases of doubt, Salkowski's method for the separation of vegetable cholesterin should be applied. Later, many other colorimetric tests were submitted, chief among them being the nitric acid and the Halphen tests. Of the former, Lewkowitsch stated, previous to the appearance of the latter, that he preferred it to all others. Halphen's test, however, has come into prominence and is considered to-day to be the most convenient and reliable method, both from the qualitative and quantitative standpoint, for estimating cottonseed oil, and by many it has been given the preference to the once official Bechi test.

In dealing with lards from hogs fed upon cottonseed meal, the factors are to some extent different from those in the case of rendered lards mixed with cottonseed oil. The analytical numbers—iodine absorption value, and melting point—are not trustworthy, although indicative. Bomer has shown that the variations in the iodine number make this test impracticable. Albert, and likewise Henriques and Hansen have found that the composition of the fat from different parts of the same animal is subject to great differences in melting-point and iodine number. In the case of Albert, these variations were greater, on the average, than could be ascribed to any feeding ration. Hence, in this short study, we have directed our attention chiefly to other tests for determining qualitatively the presence of a vegetable oil.

One of the supposed essential differences between animal and vegetable oils is their monatomic alcohols called cholesterins. The former, animal cholesterin, crystallizes from hot alcohol in rhombic plates, and the latter, vegetable cholesterin, and designated by Hesse as phytosterin, crystallizes in needles arranged in stars, fans or bundles. According to Bomer, in a mixture of the two cholesterins, the phytosterin either takes on the form of elongated plates, which may or may not have angles at the ends, or if it is in much the greater proportion, of needles which lie upon the rhombic plates of the animal cholesterin. Van Kettel states that another distinguishing feature of some vegetable oils, and especially cottonseed oil, is that they give the pentosan reaction. In this connection Rudzinski has recently shown that the pentosans occur in company with the carbohydrates in the plant cells and are closely connected with cellulose, a prominent constituent of cottonseed meal. Slovtzov also states that a part at least of pentosans is absorbed by the animal body. In 1891, Welman proposed his phosphomolybdic test for vegetable oils, suggesting that the reaction might be due to glucosides. In 1901, he defended the attacks upon his test and added that the final blue coloration which would also result if amines were present, was of little value, as the characteristic feature was the green color produced when the nitric acid was added. Seiler and Verda have lately stated that Welman's reaction, though not a positive test, gives good indications of the presence of vegetable oils in admixtures of animal fats or mineral oils.

Again, as suggested above, Bomer, worked upon the separation or detection of a vegetable oil in lards from cottonseed meal-fed hogs. His conclusions were that inasmuch as he could not obtain crystals of phytosterin, the vegetable oil was not retained in the animal fat. He also stated that since a trace of the fatty acids lowers the melting point of the crystals, the differences in their form should be relied upon rather than that of the melting point. Virchow, who also worked upon this question, obtained results agreeing with Bomer as to the separation of phytosterin and the presence of a vegetable oil in the body fat. Solstein in his work was likewise unsuccessful in isolating the vegetable cholesterin and also in obtaining positive results with the Welman reaction. He stated that a lard, although it might give the Halphen test, should not be condemned unless it gave Welman's reaction and crystals of phytosterin.

It is noteworthy, at this point, that where the Halphen, Bechi, and nitric acid colorimetric tests have been applied to lards from cottonseed meal-fed hogs, these reactions have been obtained almost without fail. The majority of investigators agree that each of these characteristic reactions for cottonseed oil is dependent upon a specific constituent in the oil for its ultimate color. If this is the case, then the animal fat has apparently assimilated these three bodies in their unaltered condition, either through the medium of the unchanged cottonseed oil or its simpler decomposition products, for, should they have been subjected to the regular processes of metabolism, it is difficult to conceive that they could have been transmitted to the fat cells without one of them having lost its characteristic property.

In our work, samples of leaf and ham fat were obtained from each of four hogs which had been fed largely upon cottonseed meal. The fats were rendered in the laboratory at a low temperature, not exceeding 120 degrees C. A sample of leaf fat, known to be free from cottonseed oil, was also rendered at the same time and

under the same conditions. Quantitative determinations of cottonseed oil were then made on each of the eight samples of lard by the Halphen and Bechi-Hehner tests. The amount of cottonseed oil was found to range from 5 to 15 per cent. The Bechi-Hehner method gave somewhat higher results throughout.

The first four samples of the above lards were then taken for the more detailed study as to the presence of the vegetable oil.

In applying the nitric acid tests to these lards, the characteristic brown color appeared at once and was very pronounced. A blank test upon the pure lard gave no color, even after standing twenty-four hours.

As suggested by Van Kettel, Tollen's phloroglucinol hydro-chloride reaction for pentosans was tried. With each of the samples a distinct reddish pink ring was noticeable at the juncture of the two layers. A parallel determination upon the pure sample gave no such results, showing that pentosans were present in the lards in question.

Welman's phosphomolybdic test was carefully tried. The characteristic green and blue colorations were obtained repeatedly when applied to the samples in question, but in no case could they be produced with the pure lard.

Having been successful in these characteristic tests, attention was then directed to the separation of the vegetable cholesterin, phytosterin, believing, with Salkowski, HMehner, Bomer, Solstein and others, that should this unsaponifiable substance be found, the evidence would be still stronger in favor of the presence of a vegetable oil in the lards.

Three attempts were made to separate the phytosterin. First, Von Raumer's method was found to yield a substance which agreed fairly well with the description of phytosterin, but the quantity obtained was so small that no positive results could be procured. Forster and Reichelman's method was then applied. The yield was somewhat larger than in the previous case and the same characteristic features concerning the crystalline formation were noticeable. In this instance, a parallel determination was made upon a sample of cottonseed oil. There was a similarity in their crystalline structure, but we are stil dissatisfied with the results. In a somewhat recent article by Ritter, he has shown that his method for the separation of cholesterin from fats will give a larger yield than any of the others. We were led to try this procedure in our case. Briefly stated, it is as follows: Fifty grams of the fat are heated in a porcelain dish upon a water bath with 100 c.c. of alcohol. This solution is saponified by the addition of a hot mixture of 8 grams of sodium hydroxide and 160 c.c. of strong alcohol. It is then evaporated and 75 grams of sodium chloride are added and the whole is dissolved in hot water. The solution is brought to dryness with continued stirring and the residue pulverized and left over sulphuric acid for some time. The dried mass is then extracted with ether for at least nine hours, using a Soxhlet apparatus. The extract is freed from ether at a low temperature and the residue of cholesterin is finally taken up with hot alcohol and allowed to cool slowly, when crystals will separate.

Two hundred grams of the lard in question and 50 grams of pure cottonseed oil were carefully treated as just stated. As a result, we obtained a much larger yield than in either of the other two methods, although the amount obtained in this case was still small. The crystals from the evaporation of the ether were needles. After treatment with hot alcohol and allowing the crystallization to continue slowly, needles again separated. In the case of the cottonseed oil they were arranged in stars, and in the case of the lard, in leaf-like forms. Upon crystallization the stars retained their same general shape, but the leaf-like forms changed into bundles of needles. These bundles crossed each other at different angles, forming clusters. A second recrystallization of these bundles gave crystals of a distinct fan shape, wtih a star of needles as a base and having the fascicular portion built up from this nucleus. By recrystallizing these again, they passed into the previous form—bundles of needles. Salkowski's chloroform-sulphuric acid test for cholesterin was applied to this small quantity of crystals. The test proved the presence of a cholesterin and the crystalline form indicated that it was probably phytosterin.

However, as a further confirmation of the presence of phytosterin, Bomer ascertains the melting point of the acetic esters of these crystals. He states that this method is a very sensitive one for detecting the kind of cholesterin. If the melting point of the crystals is 116 degrees C. or higher, it shows phytosterin to be present. This method has been used by Tolman in attempting to identify phytosterin in lard from cottonseed fed hogs, in which he obtained negative results. Juckenack and Pasternack agree with Bomer in regard to the acetate test or phytosterol, but they do not make any statement as to its delicacy. On the other hand, Siegfeld states that while the test is accurate, it is not sensitive in the cases of the fats with which they worked—margarin and palmitin—to less than 10 per cent. Bomer claims that cottonseed and sesame oils, which are frequently present to considerable extent in margarin, can be detected by this test when present to the extent of only 1 to 2 per cent. It is thus apparent that there is still a difference of opinion as to the delicacy of this test. In our work, as a result of repeated experiments, we always obtained crystals which closely resembled those of phytosterin, but as yet we have not been able to prove conclusively the

presence of this substance by the melting point of its acetate. This brief study, which was originally undertaken in order to confirm the Halphen and Bechi tests for cottonseed oil in lards from hogs fed upon cottonseed meal, has been found to present so many subjects of interest upon which as yet very little has been published, that we are now making still further investigations upon the problems involved.

CONCLUSIONS.

These several samples of lard rendered from the fat of cottonseed meal-fed hogs were found to give the following tests for vegetable oils: (I.) Welman's reaction, (II.) Tollen pentosan reaction, (III.) Salkowski's cholesterin reaction, and (IV.) crystals resembling phytosterin. The samples also gave the following tests for cottonseed oil: (I.) the Beehi, (II.) the nitrie acid, and (III.) the Halphen reactions. From this it is evident that two statements can be made, first that the lard contains a vegetable oil, and second, if we agree with the most recent authorities, they contain three distinct constituents of cottonseed oil. Hence, it seems safe to say that a part, at least, of the oil existing in cottonseed meal is absorbed, in the case of hogs fed upon this ration, by the animal body and transmitted in its unaltered condition to the fat cells.—Journal Am. Chemical Soeiety.

Chemical Preparation of Olive Oil.

For the last few months a modified chemical process deserving notice has been in use in Tunis. This is the Kness process recently modified by M. Funaro.

The olives are ground and redueed to a fine pulp. The virgin oil exuding during the operation is collected. After grinding the pulp is soaked in a dilute solution of sodium carbonate, and is transported to large vats containing a dilute alkaline lye, of which the temperature, in order to avoid saponification, should not exceed 40 degrees C. The mass is then agitated by the introduction of air under pressure. After six hours of aeration the contents of the vats are left at rest. The oil and pulp gather on the surface in the form of an emulsion. This is treated with a dilute solution of alum, and at the same time the liquid is submitted to the double influence of air under pressure and of an electric current. After some hours of agitation the liquid is left at rest for half a day. The extract and coloring matters are precipitated by the alum and fall to the bottom of the vats. The upper layer of oil is then washed with water and filtered. The deposit contains at most 4 to 5 per cent. of the quantity of oil calculated according to the pulp, and it may be extracted for the production of soap by hot treatment with a soda lye.

The olive oil thus secured is of uniform quality. It has very little odor or eolor and is not congealed by the cold like the oils of the South. It is principally neutral and remains as it is when kept. It is lacking in taste, especially the strong taste eharacteristic of olive oils extracted by the ordinary methods. As in the north of France, the oil called olive oil is generally exeeedingly mild, so the oil prepared chemically is, it is said, quite acceptable; while in the center and in the south it would doubtless be regarded as too insipid.

The process described not only does away with ordinary and hydraulic presses, but has the advantage of a superior yield in oil. Olives, whose composition eorresponded to 26.85 per cent. of oil, with 39.75 per cent. of water and 33.40 per cent. of cellulose, pulp, etc., have yielded 25.15 per cent. of oil extracted and 1 per eent. of oil in the deposit, while by the ordinary method, 19.25 per cent. of oil has been drawn fro mthe first and the second pressure, 1 per eent. of oil called "infernal," and 3.40 per eent. of oil from the mare, or in all 23.65 per cent. In comparative experiments 22.6 per cent. of comestible oil and 1.2 per cent. of oil from the marc have been obtained by pressure, against 25.9 per cent. of oil by the chemieal process. It seems that an increased yield of 1.5 per cent. can be relied on.—Revue Industrielle.

PATENTS AND TRADE-MARKS.

The following list of recent Patents and Trade-Marks is reported by W. G. HENDERSON, Solicitor of American and Foreign Patents and Trade-Marks, Norris Bldg,, Washington, D. C. A copy of any of the following will be furnished by him for 15 cents.

PATENTS.

785,094. *Liquid-Soap Reservoir.* Amedee L. Fribourg, Denver, Colo.

786,125. *Soap-Mill.* John H. Hinkle, Columbus, O.

786,496. *Making Neutral Soap.* August P. Horn, Hamburg, Germany.

786,556. *Soap and Making Same.* Hermann Giessler and H. Bauer, Stuttgart, Germany.

787,342. *Soap-Dispensing Machine.* William B. Moore, Jersey City, N. J.

AROUND THE SOAP FACTORIES.

News-items sent us by our readers will find prompt attention in this column

The Buffalo (N. Y.) *Enquirer* of April 3 contained the following notiee:

Hugh Thompson, who died Saturday morning at his late home in Yellow Springs, O., was a former Buffalonian and well known in business and social circles.

He was born in Carhill, Ireland, February 29, 1824. At the age of 9 years he came to Ameriea, and in 1850 started in the soap business in this city. His factory was located on the corner of Ferry and Chicago Streets, where he conducted the business for a great many years.

The family resided at No. 388 Franklin Street, until its removal about fifteen years ago to Toledo, where Mr. Thompson and his son, W. J. Thompson, now of New York City, carried on the soap business for about five years. They then removed to Yellow Springs, O., where they have resided ever since.

He is survived by his wife, Rebecca Bell Thompson, two daughters, Mrs. Charles C. Murray of Chicago, and Mrs. James Whiting of Yellow Springs, O., and a son, William J. Thompson of New York City.

Ironton, Ohio: A deal was closed Thursday morning whereby the control of the Weihle Soap Company passes into the hands of a company organized by C. J. Norton, A. R. Wittenberg and Capt. William Bay as the leading spirits. This new company secured control of the Goldcamp and Hannan interests, being 149 shares out of 250.

Arrangements have been perfected whereby the present officers and directors will resign and a new board be elected and officers chosen. A. R. Wittenberg is to be president, William Bay, vice-president, and C. J. Norton, secretary and general manager.

The parties that have secured control of this industry have had an option upon it for some time. The deal was closed after a thorough investigation of its business by an expert accountant.

Mr. Wittenberg and Capt. Bay are Ironton citizens and need no introduction to Ironton people.

Mr. Norton is a traveling man of wide experience and is in touch with the jobbing trade of Ohio, Kentucky and West Virginia, and is well and favorably known here. He succeeds to the position which will be vacated by F. F. Goldcamp. He expects to move his family here and to make Ironton his future home.

V. K. Cassady, who has been with Armour & Co. and Swift & Co., of Chicago, for several years as chemist, soapmaker and perfumer, has taken a position with the Remmer Soap Co., of Cincinnati, as superintendent.

Goldsboro, Pa., is negotiating for a soap factory which New York and Philadelphia capitalists are planning to build.

Incorporated: The J. A. Zibell Co., at New York, to manufacture oils, grease, soap, glue, etc. Capital, $30,000. Incorporators: Julius A. Zibell, Tappan, Rockland County; Wm. L. Kobarger, New York City.

George R. Hirst, of Philadelphia, died at his home on Monday, March 27. Mr. Hirst had been connected with the Camden & Philadelphia Soap Co. for about twenty years, and was one of the most popularly known salesmen in the eastern states. He was a brother of P. W. Hirst, of the Camden & Philadelphia Soap Co., and also of Wilmer G. Hirst, Dr. Levi Hirst and Frank Hirst. Mr. Hirst was about 52 years of age. A widow and one son survive.

Incorporated: The Kleanit Manufacturing Co., of Akron, Ohio, $15,000, was incorporated by George E. Warner, A. H. Cummins, H. B. Mills, Benjamin W. J. Weldy and E. A. Forest.

Newark, N. J., April 1, 1905: Application for an injunction to restrain the stockholders of the Benzineated Soap Company from dissolving the corporation was refused by Vice-Chancellor Grey in Camden, yesterday.

Worcester, Mass., April 2, 1905: Harry W. Smith and other representatives of the Grafton Country Club have petitioned the local board of selectmen for a hearing on the matter of renewing the license of the Home Soap Company. The board of health refused the company a license and the selectmen said the concern might proceed until it was shown that the plant was a public nuisance. The club members who have to pass over the road near the plant to reach their clubhouse claim that the odors from the works make the plant a nuisance and menace to the public health. People who live in the vicinity of the soap shop also want to see it shut up.

Paterson, N. J., April 20, 1905: The John W. Fergusin Company has the contract for the erection of the new Babbitt soap making plant at Granton on the Susquehanna Railroad. The contract calls for the erection of thirteen large buildings.

The White Cliff Soap Co., of Columbus, Ohio, is announced as one of the latest aspirants in the soap making field.

Glastonburg, Conn., April 3, 1905: C. F. Dean has the contract from the J. B. Williams Company for the new building which will be erected by the company for the purpose of enlarging its plant. The new building will be located on the south side of William Street fronting on the highway. The wooden building which is connected with the factory building on the north side of the street will be torn down, and the sheds adjoining, so that the new building can be placed upon the site. The new building will be of brick, 50 by 165 feet, and four stories in height with a basement. This building will be of mill construction. Another building of fireproof construction, 30 by 50 feet, and of the same height, will be annexed to a larger building on the south. Work will be begun about April 1 and the contract is to be

completed on or before October 15. The new building will be used for general purposes of the company and to furnish a larger place to dry soap.

Omaha, April 21, 1905: Parks, Johnson & Parks were Thursday given a contract for building additions to the soap factory and office building of the Cudahy plant. The cost of the improvements will be about $15,000. The main building of the soap factory is six stories. The new addition will be four stories and built on the south side. The addition to the offices will be at the northwest corner and will be used mostly for vaults and office supplies.

Wm. Keith, of Nashua, N. H., is erecting an addition to his soap factory.

Burlington, Iowa, April 10: A new firm filed articles of incorporation yesterday under the name of the Burlington Soap Company. The principal place of business is to be Burlington, Iowa, and its business the manufacture and sale of all kinds of soap, with powers generally to transact all business in connection therewith. The authorized capital stock shall be $50,000, but the corporation may begin business when $26,500 of the authorized captial stock is subscribed. The capital stock shall be issued in shares of $100 each. The articles were signed by T. W. Alexander, Edward F. Holsteen and William Archer.

Worcester, Mass., April 14: Richford Bros., of Worcester, have rented the property once occupied by the Gilbert soap factory, and it is reported that the business will be started up again. It is located near the bridge over Muddy Brook, on the road leading out of North Street toward Greenwich.

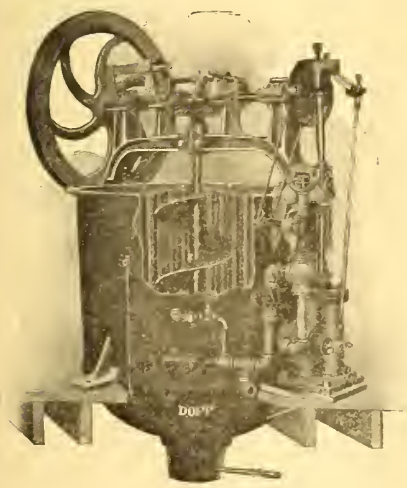
The Allen Soap Co., of Lexington, Ky., is thinking of increasing its capital stock by $20,000.

Additions to Our Brand List.

356—H. E. Wofford Co., Baltimore, Md.
357—Fox River Soap Co., Green Bay, Wis.
358—Lever Bros. Co , Cambridge, Mass.
359—Lever Bros. Ltd., Port Sunlight, England.

Ammo Wash. P.—F. L. Fraser, Detroit, Mich.
Aseptine—J. A. Simonds, New York, N. Y.
Big Cape, Cape City S. Works., Cape Girardeau, Mo.
Ceral—Gustave Lohse, Berlin, Germany.
Dolly Varden — A. W. Wilwid & Co., Newark, N. J.
Fawn—Cumberland (Md. Soap Co.
Lustro—F. L. Hunt, Cincinnati, Ohio.
Merry War, Cape City S. Wks., Cape Girardeau, Mo.
Oleo—Germ. Amer. Soap Wks., New Orleans.
Power Soap — F. Martin, Columbus, Ohio.
Radium—Natl. S. Corporation. Boston.
Strajuso—Frazer Soap Co., Chicago, Ill.
Strawberry Juice Transparent Glycerine S. No. 202 — Frazer Soap Co., Chicago, Ill.
Volcano—F. L. Hunt, Cincinnati, Ohio.

Angelo Olive 54
Aroma de Clavel 54
Bell's Benzene 343
Big Cannon 357
Boro Myrr 54
Bright Home 356
Cannon 357
Clavel 54
Cu-Te-Na 351
Cygnet 74
Don't Worry 74
Four Leaf Clover 54
Gasene 106
Glyco Tar 54
Golden Dawn 357
Golden Dragon 54
Golden Star 357
Gold Medal 106
Indian Tar 357
Individual Toilet 54
It 4
Keno 106
Koko-Oil 54
Kold-Wata 54
La Batea 2
La Fiesta 54
Lazarre Castile 357
Magno 106
Navarino 357
Osmosis Soap 4
Oxy-Kali 16
Peach Bloom 356
Pearl Borax Chips 74
Prairie 72
Prismal 106
Radio 106
Savon Fleur de Lis 54
Signet 74
Spick and Span 106
Stellar 106
Trix 54
Veg-Oil 113
Veget-ore 4
White Dawn 357
White Man's White Tar 357
Wofford's Complexion 356
Yellow Star 357



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Including also the Brands of Foreign Manufacture Registered as Trade-Marks in this Country.

NOTE: This list is compiled with the greatest possible care, but the publisher does not assume any responsibility other than to correct and to complete the list according to data obtained from official sources or furnished by the trade. Brands registered in the patent office as trade-marks or labels are given with the name of the party registering same. Brands or names marked * are those which were found to be used by more than one firm or the owner of which could not be ascertained. ☞ SEE THAT ALL YOUR BRANDS ARE ENTERED IN YOUR NAME.

3 Liberty Mfg. Co., Chicago.
113 Puck Manufacturing Co., Des Moines, Iowa.
344 Home Soap Co., N.Y.
345 Columbia Ref'g. & M'f'g Co. Ltd, New Orleans.
346 Beaumont Soap Co, Mayfield, Ky
347 Lockwood Soap Co., Kansas City, Mo.
348 Oklahoma Soap & Oil Co., Oklahoma City.
349 M. F. Windsor Soap Co, East Buffalo, N. Y.
350 Florida Cotton Oil Co., Jacksonville, Fla.
351 Brown Soap Co., Dayton, Ohio.
353 Southern Soap Co., Birmingham, Ala.
354 Zion City Soap Factory, Zion City, Ill.
355 Palami Co., Boston, Mass

Abrado. Floridine Mfg. Co., New York.
A Happy Home 4
Alabama Tar 3
All-need it 286
Allpiue Tar 337
Amazon Coco 337
Amber Rose 346
Ammonaptha 347
Anchor Castile 3
Angelus 54
Antelope 3
Antillia 2
Antler 337
Anty Up 340
Apple Blossom 337
Aquidneck; F. P. Garrettson & Co., New York City.
Atoka 346

Baby Mine 8
Bannock 3
Bauty 32
Beauty Belle 151
Beaumont's Shaving 346
Beef Oil 340
Bell's Brown 343
Bell's Naphtha 343
Ben Hur 3
Besiever 286
Bicycle 3
Big Eye 353
Big Glycerine 3
Big Injun 348
Big Luck 350
Billy-Goat 340
Bi-Naptha 348
Bleachem Soap 341
Blo-Re-Mo 333
Blossom Bouquet 3
Blue Chip 340
Blue C ond 2
Blue Coco 340
Blue Family 340
Blue Monday 340
Blue Olive 340
Boast 3
Bora-Naptha 96
Botica Francisca 3
Bouquet Chic 3
Bouquet Reverie 3
Brazilian Bath 3
Breath of Heliotrope 337
Breath of Lilacs 337
Breath of Roses 337
Breath of Violets 337
Brightshine 156
Bunny—Hewitt Bros. Soap Co. Dayton, Ohio.
Buster Brown 351

Cade-ola 3
Calcutta Castile 337
Calumet 3
Camille 3
Carbolized Castile 113
Cascade 16
Ceske Slovonsky
Ceske Polski 3
Chiles' Cactus Cream Skin S.—Geo. Catlin, Chicago.
Chlorine 340
Cleaneasy 286
Climax Chip 54
Cloth Pin 340
Cloths Pin 340
Coa Nut 346
Coaster 32
Coca Foam 3
Colombo 351
Columbia 3
Conto & Elroy Castile 3
Cream Naptha 343
Credential Shaving Stick 16
Cricket Soap Powder; Davis & Marston, New York City.
Crown Princess 337
Crystal Honcy 346
Crystal Sulphur 3
Crystal Palace 3
Crystal Transparent Tar 3
" " Carbolic 3
Cuban Rose 3
Cuta Alba 3
Cultoderma Medicated 3
Cycle 3

Dactylis 11
Der-Foda 3
Dermienra 327
Diadem 3
Dollie (Filtered) Blue 372
Druggist's Transparent 3
Dr. Allens Medicated 3
Durango Best. Durango(Colo.) Soap Co.
Dylissia—Vin lia Co., Ltd., London, England.

Ebony 351
Egg Tar; Lee Specialty Co., Detroit, Mich.
Eiderdown 337
Elk's Bouquet 346
Empress Engenie 115
Empire Geranium 337
Encryl Encryl Ltd., Hull, England.
Eureka 3
Evergreen 286
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DR. HENRY GATHMANN, Publisher.
2707 North Ave, Milwaukee.

MILWAUKEE, WIS., June 1, 1905. VOL. XV. No. 10.

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An Omaha dispatch says that on May 20, "for the use of the Indian Department, the government purchased 500,000 pounds of soap from the Cudahy Packing Company, of South Omaha. This is probably the largest single order for soap ever given, and is enough to give every Indian in the country a year's supply."

While not doubting the main points of the foregoing information, we fail to see how 500,000 pounds of soap are calculated to furnish a year's supply for every Indian.

Is it not understood pretty well that the Indians use soap preferably as a medium of exchange? Don't they trade it off for fire-water which, for rapidly producing a "shine" is much preferred by them to the less exhilarating application of soap? And how long can the small matter of half a million pounds of soap last the Indians in this way?

What is "dirt"? The crazy faddists who lecture before clubs, health advancement societies and what not, on the dangers of using too much soap and on the necessity of cultivating closer proximity with "dirt," should remember Liebig's definition of the term: "Dirt is simply matter in the wrong place."

The best of material, when present in the wrong place, becomes dirt. Flour paste may be the basis of the staff of life while it is in the bakery, but becomes dirt when it is spread on the kitchen floor. If "dirt" had a legitimate place on a baby's face, it would not be "dirt" but a skin food.

Now "wouldn't this frost you?" And English writer for a trade paper makes this curiously constructed assertion: Everyone who undertakes a journey in Germany is well aware that among other things the hotel keepers do not do is that of providing soap for their guests. Perhaps so far as English visitors are concerned this is not a bad thing, for truly, from personal experience, and from reading in the daily and technical journals published in German, one can only conclude that German soap is a thing that is most wonderfully concocted and built up; the actual soap forms but a minor part in its construction. The German soapmakers have carried out the art of filling to a nicety, and they think nothing of the output unless they get about 300

parts of soap from 100 of fat; here, if the soapmaker gets 150 parts he is quite content. Now and again a chemist gets hold of a sample, and after analysis, criticises very adversely the composition of the soap, carefully pointing out that the fillings have no actual washing properties. This, of course, rouses the ire of the soapmaker, who retorts that the chemist does not know anything of practical soap making, anyway, the chemist has the best of it, for he knows what a good soap should contain. We think the German soapmakers should try the effect of producing good soaps and charging a fair price for them. We rather fancy that, as in this country, soap users would prefer them to the nasty cheap filled class of soaps, while the soapmaker would find it easier to make a pure soap than a filled soap.

Speaking of the census, one was taken by the police in New York City the other day, to ascertain the number of push-cart peddlers who sell soap, shoes, books, jewelry and the like in New York City. There are 10,000 licensed push-cart peddlers, besides a vast number doing business without a license.

At the annual convention of the cottonseed crushers just held, the president referred to overproduction of the oil being the cause why so much of the oil finds its way to "the lowest and basest of uses, the soap kettle." We like that!

An Illinois daily paper says that in two eastern states bills are pending in the state legislatures seeking to make it a misdemeanor to expose toilet soap in public toilets, where it may be handled by different persons.

If that is true, how long will it be until we fall into that so freely ridiculed way of the German hotel keepers, who from time immemorial have abstained from furnishing soap to their guests?

Now comes one of the oldest inhabitants of the South and says that over fifty years ago "we school boys" used to gather soap berries from trees around Beauford, S. C., to wash our hands with.

If his memory is trustworthy, then "we school boys" of over fifty years ago were quite different from the present generation of school boys.

A correspondent asks us what is approximately the amount of money spent for soap in a year in this country. We should like to be able to answer, but cannot. The amount of soap manufactured in the United States is not even approximately known, and of this a certain ascertainable quantity is exported. Also a considerable amount of imported soap is to be added, the value of which can be found in our government publications. But the census figures of our home manufacture are too incomplete altogether to base any estimate on.

Hear Also The Other Side.

In reference to a subject recently ventilated in this paper and in the Scientific American—the danger lurking in the cake of soap—a communication supporting our view of it was published in the Scientific American last month, as follows:

To the Editor of the Scientific American:

In the Scientific American of March 4 there was an article by Mr. G. F. Shaver, telling of the awful effects following the use of the soap in public toilet rooms. I beg leave to tell the other side of the story. While in the employ of the State Board of Health of New Hampshire, I performed a large number of experiments to determine the relations of the use of various soaps to the transmission of disease. I made careful bacteriological study of seventy-five cakes of soap, obtained from as many sources, including hotels, machine shops, railroad stations, a sewage disposal plant, various kitchens, two abattoirs, and a number of specimens from a public bath, and was unable to find living germs on any of them. Another set of experiments was conducted, to find how long germs would live on soap. A cake of soap was put in a sterile dish, and inoculated with living germs from strong cultures and placed in the incubator. This was repeated with many varieties of soap and twelve of the most virulent varieties of germs. In no case did the germs live more than four hours, and that only once. The germs were all dead in less than a half hour, with but three exceptions. Bacteriologieal examinations were made of twenty new cakes of soap, and no bacteria were found on any of them, although on one cake of "antiseptie soap" we found a pure culture of a non-injurious mold, and we were able to grow this variety of mold on other cakes of the same soap, but not on the ordinary soaps, such as most commonly used. We found that the soaps selling for five and ten cents per cake would kill the germs planted on them in slightly less time than the higher-priced soaps; this probably being due to much greater alkalinity.

These experiments were not done for any soap company, but were in connection with an extensive study of sterilization for operations in places other than hospitals. We concluded that soap in the farmhouse of ordinary cleanliness is safe to use for any purpose of cleaning.

A. P. MERRILL, M. D.

Pittsfield, Mass., April 30, 1905.

How To Improve Prevailing Conditions in the Soap Industry.

GEO. A. SCHMIDT, CHICAGO.

With the above object in view, in his own interest principally, the writer went East early this spring. While in New York City, men prominently connected with the trade told him of two meetings to be held in the city he had just left. Chicago was to be the place where *sellers* of soaps were to discuss the difficulties *they* encountered, and soap *manufacturers* were to come together for the purpose of improving *their* business. Regretting his absence, the writer asked for reports of the gatherings, which were forwarded.

From what was said at those meetings, it would appear that none of the participants had very clear ideas of what they really wanted. The mistake was made of holding meetings without first announcing same in the trade papers, stating the objects sought, and thereby giving *all classes* of *soap manufacturers* a chance to prepare themselves to be better able to explain their views before the assembly.

As the improvement of an industry in which so many varying elements are represented (as in the case of soap *making* and *selling*) cannot possibly be undertaken by one or a few individuals, the writer once more straddles his "hobby horse" (which is best described by the popular saying: "Publicity is a remedy for many evils") and puts his thoughts, brought out by the meetings referred to, before those of his colleagues, especially, who did not attend either of these gatherings.

It is surprising to note how members of an industry, the success of which is based upon a knowledge of chemistry, should so entirely disregard the great lessons taught by that science. It is not the first time that the writer mentions the fact that success of any kind is made like good soaps, i. e., *good, pure, carefully selected* elements are brought together in proper proportions and agitated until they combine. The resulting product then performs duties or does work which none of its ingredients can accomplish separately.

Every chemist knows that elements *combine only according to fixed laws, in fixed proportions and under certain conditions.* Those without affinity for each other are simply impurities, are useless and do more damage than good; how, then, can intelligent men endeavor to combine elements which have no "chemical affinity?"

As no chemist will try to form useful combinations by uniting different lots of similar material, so should the organizer understand that *various* elements should enter into the combination he endeavors to perfect. As in every successful business will be found *practical mechanics* as well as *those who manage* affairs, so that the results of work of a foreman will become useful to the world, so should *various classes of soap manufacturers* be brought together for the purpose explained below.

Besides chemical compounds, the forming of organizations may also be compared to the growing tree, not only the soil, which we can see, into which the seed is planted; or the rain and sunshine, which we can feel, are necessary to produce crops; there is a something besides which we cannot define and which cannot be noticed with our senses; an *atmosphere*, which has a decided influence on the crop produced. The writer is well aware that not every reader will comprehend what that means, but some will, and for those this is written.

In our busy, money-making times, quick results, *cash*, is too often the only consideration. Is the dollar really the only factor in our happiness? Ask yourself, if you have brains and experience these will answer, and give a *correct* reply, to all those who have ever had the good fortune to meet with *real* gentlemen and ladies, with men and women of high morals, lofty aims and elevated purposes. To become familiar with the best in the land brings a *contentment*, a *satisfaction* unknown to those in quest of the dollar only. There is an *atmosphere* surrounding "God's noble man and woman" which makes everybody happier who breathes it. A matter of fact business man does not expect that associations or meetings will bring about the very desirable state of affairs just described all at once or very quickly, "good things take time," but the sooner a proper start is made the quicker desirable results will come.

It is of no use to shut our eyes to the fact that careful selection, proper grouping, is essential to progress. But men cannot group themselves properly, cannot form profitable, satisfastory organizations, unless they meet often enough, and talk about the many subjects which ought to interest them and do this in such a manner that they learn which "elements" among them have a "chemical affinity;" which of those whom they have met, might combine in order to render more satisfactory services to the world, in consequence of which their own business will become more profitable and interesting. It is a mistake to "throw up the sponge" if there is no profit in our coming together, take time, have patience and keep on agitating, you will come across the proper elements with which to combine sooner or later.

It has been said at a meeting of soap manufacturers that associations will surely come into collision with the "Interstate Commerce Law" sooner or later; those who hold such an opinion show thereby that they have the wrong ideas about the aims and purposes which organizations *should* follow. The law is only against practices which are detrimental to the public welfare. The raising of prices by unlawful means is so unworthy an

object that no organization should attempt anything of the kind. There are many examples to be seen everywhere, how the proper grouping of individuals, the *correct* organization of trades, results in a great saving of energies, of time and material, that we need not go into details here. If we remember how some of the best paying brands of soaps are owned and controlled by parties who know nothing whatever about soapmaking, *one* of the reasons becomes evident why *co-operation* of such *manufacturers* who have most knowledge and experience in the making of special soaps, with those who have exceptional facilities for *distributing,* along with their own brands and specialties which are used in limited quantities, must result in mutual profits. Such an arrangement will take away the inducement to make specialties for proprietary concerns (not soap manufacturers proper).

The National Civic Federation started in Chicago years ago, then a purely local affair, furnishes a good example for the formation and maintenance of a soap manufacturers' organization. The writer was present at the first meeting of the Chicago Civic Federation, and well remembers the address made by Lyman Gage (later United States Minister of Finance), as well as by Mr. Cole, the sum and substance of which (in reply to remarks which sounded very much like those made at the last meeting of the soap manufacturers, viz., that it was impossible to correct existing corruption by forming an association) was as follows: "Why, gentlemen, we *must* do it, there is no other way of saving the city from disgrace;" and "where there is a will there is a way." The various branches, which subsequently grew out of the seed planted in those meetings, bore rich fruit. The "Municipal Voters League," one of its offspring, helped Chicago to get an honest majority into the City Council; the "Organized Charities," another branch, accomplished a great deal of good, and the developed "trunk," the "National Civic Federation," is so well known that we need not explain what good it is accomplishing. Equal chances of development present themselves to soap manufacturers who are willing to elevate their profession and to profit by so doing.

To return to the classifying of manufacturers, to explain better in what manner the "grouping" should take place, let us mention as examples those who cater to the "inner man," (restaurants, saloons, etc.). Just as there are different classes of these, from the cheap hash houses, which work up scraps into eatables to supply the needs of the indiscriminating, up to the first-class "home cooking" establishments, which use nothing but the best of everything and prepare it in a clean, wholesome manner, and as the refined patrons of the latter would not think it possible to eat anything else but food carefully selected and properly prepared, so will the soaps be classified, as soon as the manufacturers themselves realize that the removal of the minutest waste matter is as important as eating and drinking.

Educational campaigns are as necessary in our trade as anywhere else, and who else could undertake them but *associations of manufacturers?* Those selling to laundries would show laundrymen, who make their soap themselves, why it is a step backwards to become a "jack of all trades;" textile soap manufacturers would issue instructions why a certain soap does not answer where processes in bleaching, dyeing, etc., are changed; toilet soap manufacturers would enlighten the public why and how properly selected soaps correctly used, increase health, beauty, comfort and happiness; save time, energies, worry and prevent disappointment.

As things are nowadays, where the single manufacturer is afraid to come out with new ideas and improvements, because he knows they will be stolen from him by his unscrupulous competitors, progress *is* retarded. What is needed badly in our trade is the creation of a proper pride in achievements, in the results of our work. As a practical, experienced business man, the writer does not imagine for a moment that an association will change human nature. The mean man, who feels in his heart that he does not give full value in the goods he sells, will contrive to *bribe* others into buying from him, the greedy, scheming rascal will keep on playing tricks and scheme to get an order away from his colleagues, even at a sacrifice, but an association would have an influence like a police department has on other rascals, they would not ply their trade openly. Abuses might be brought before the organization or an executive committee of the same, the culprit would be warned and if he did not desist he might be held up to public opinion.

Some may smile at the idea of influencing bad persons by holding their actions up to public criticism, nevertheless publicity is an all-powerful weapon if it is only used properly, that is in such a manner that the culprit *feels* it. Some of those who sneer at public opinion most, would rather lose their fortunes than be ridiculed, or despised, or slighted, etc. It all depends in which way public opinion is expressed, every human being desires to be appreciated by his fellows. If we show our contempt for everything mean, and do so persistently, many a mean act will be suppressed. There are many other ways in which an association would do much good.

"KEEP THE BALL A-ROLLING."

Florida Soap Tree.

Dr. Gathmann:

You are one of those who believe that "modesty *never* ceases to be a virtue." You certainly show that in disclaiming credit for the discovery here of the soap tree. Had it not been for the publishing of Mr. Kidder's report in your paper, I would not have known of it, and, in all probability, Mr. Livingston would have been kept in blessed ignorance of the value of his possession.

While I do not wish to play the "Alphonse and Gaston" act, I think it is but justice to also give credit to the "Florida Sun" for republishing from your paper, with the observance of the professional rules of courtesy, the report in question; the Sun was the medium through which the discovery was made.

The fact remains, however, that the discovery is incidental and of much less importance than the existence "itself" of the tree. Had not the tree been in existence there could have been no "discovery" of it, and the credit for its existence is due and belongs exclusively to Reverend Benjamin Helm, who imported the seeds from China, some 20 years ago, and who himself planted the seed of the tree, now the property of Mr. Livingston. The Times Union (our morning paper) published some days ago that there are two trees, apparently of the same age, in the premises of Mrs. P. C. Sullivan, at Tallahassee, Fla. It is supposed that these seeds are from the same source.

It is very gratifying and encouraging to see the interest manifested by high officials of the United States Department of Agriculture in the success of the development of that industry; it is demonstrated in the following letter, received May 18th:

U. S. Dept. of Agriculture, Bureau of Plant Industry.
Washington, D. C.

"Mr. E. Moulie:

"You will be interested to know that we have written requesting quotations from the American Consul in Algiers on seed or plants of the soap tree, which we trust we will be able to import for your experiments and the experiments of others in Florida. When they arrive, you will be remembered in the distribution, as it was your letter which called our especial attention to the matter. Yours very truly,

"Signed: DAVID FAIRCHILD,
"Agricultural Explorer."

In the meantime, and thanks to the generosity of Mr. J. H. Livingston, I have on my grounds, growing splendidly from rooted small plants, nine beautiful trees; and growing from seeds, planted on the 5th of April, 20 small ones promising nicely, and I expect to see some others come up every day, having planted on same day 80 seeds. In due time I shall give away every "cutting available" from my little grove, to parties willing to propagate them. I shall also, next week, give away 75 seeds which I have yet on hand. These seeds will be given to parties owning and living on the place where these seeds will be planted; they will be required to promise the propagation of same by cuttings, in proper time, as the trees grown from cuttings bear, it is claimed, larger fruit.

I will send to the United States Department of Agriculture the list of the names of these parties in order that the department may be well posted and enabled to help them by such advices that may be a help for successful results.

You see, my Dear Doctor, that down here we are doing a little more than talking, although, to be sure, we also indulge in a great deal of that delightful pastime.

Yours truly,
E. MOULIE.

Jacksonville, Fla., May 22, 1905.

How Soap Is Sold.

Under the above heading we have from time to time printed specimens of soap advertisements that seemed especially striking. For a time "copy" of this kind had been rare, but we resume the subject herewith with the following adv. of H. Kohnstamm & Co., which appeals to us as worth reproducing:

The man who pays $500 in real money for Green Goods supposed to be worth $5,000 takes the bait readily, because the proposition is put before him in an attractive way.

The samples he sees are real money, but he never gets it. When he opens the packages he finds nicely trimmed butchers' brown wrapping paper.

A contract for a year on Soap at a uniform price looks very alluring. A wise launderer never makes one. He may be sure the price will not change for a year, but is he sure the quality will not change during that time.

Soap makers must make a certain profit—they can't give something for nothing. Either the price or the quality must fluctuate according to the price of tallow. If the quality is lowered, you may never discover it until it is too late.

You safe-guard your own interests and those of your own customers by maintaining the quality of your work. You can't be sure of doing it, however, if you contract for any material at a given price, unless that price is the top market price and then you're paying too much half the time.

We make contracts to give you a uniform quality of Soap Chips—the price is the legitimate trade price on the day your order is received.

Naval Stores Prices Still Soaring.

The Oil, Paint & Drug Reporter says: The feature in this market has been the unexpected sharp advances in prices, particularly for spirits of turpentine and rosin, and the trade is still at sea regarding the future, as a result of the unsettled conditions brought about by combines in the South who endeavor to control and regulate prices for this season's output. The soaring of prices has been attributed to good consuming demand and speculative manipulations, as well as to heavy shipments for export, and light receipts due to the lateness of the naval stores season, which kept the market well cleaned up of supplies and materially reduced the stocks of both spirits and rosins. At Savannah bids of fifty-five cents for spirits for May-August futures have been made and this price was the accepted basis for sales, but later fifty-six cents for June-December options was bid. The opinion of leading dealers here is to the effect that prices will seek a higher level. The low grades of rosin have touched the highest point in many years, and prices are the nearest to the high record mark for spot common strained in the years 1872 and 1873, when sales were recorded at four dollars and seventy-five cents on the basis of two hundred and eighty pounds. Tar has also shared in the advance and prices are held as high as five dollars and sixty cents in yard for supplies in oil barrels, of fifty gallons. Pitch has strengthened and is now held at higher figures, while rosin oils have even advanced two cents per gallon.

The following table shows the highest and lowest prices of good strained rosin in yard in the New York market during each month since January, 1903, and the range for each year:

	1903.		1904.		1905.	
	H.	L.	H.	L.	H.	L.
Jan.	1.95	1.92½	2.80	2.52½	2.87½	2.80
Feb.	2.30	2.05	3.00	3.85	2.87½	2.85
March	2.30	2.30	2.80	2.75	3.00	2.95
April	2.30	2.20	2.85	2.80	3.22½	3.00
May	2.10	2.00	3.15	2.85	3.70	3.22½
June	2.10	2.00	3.15	3.05		
July	2.05	2.02½	3.00	2.60		
Aug.	2.02½	1.95	2.60	2.70		
Sept.	2.30	2.25	2.90	2.70		
Oct.	2.70	2.35	2.90	2.80		
Nov.	2.80	2.60	3.00	2.95		
Dec.	2.50	2.55	2.90	2.80		
Year	2.80	1.92½	3.15	2.60	3.70	2.80

*To May 20.

* * *

As the time is drawing nearer when a war between large interests in the South will be waged in an endeavor to control the naval stores output and prices for this season, discussion in trade circles in general are becoming active. The president of the new naval stores export company, which represents producers and factors, has made an offer to the naval stores operators to sell to his company one-half of the turpentine and rosins produced during the seven months from June to December, inclusive, at fifty-two cents per gallon for spirits of turpentine. For rosin the prices given below in the first column are those offered by the new company and the figures in the second column are the actual average prices paid, based on two hundred and eighty pounds on the Savannah market for June to December, 1904, inclusive:

	Prices.	
Grades.	1905.	1904.
C A	$2.50	$2.55
D	2.50	2.60
E	2.55	2.65
F	2.60	2.70
G	2.65	2.75
H	2.80	2.90
I	3.00	3.30
K	3.10	3.75
M	3.25	4.15
N	3.50	4.40
W G	3.75	4.60
W W	4.00	4.90

Comparing the above prices, it is claimed that the new prices named show a loss of about a half million dollars to producers. The views of leading firms here, however, are to the effect that the prices offered by the new company to producers for spirits of turpentine is a good one, and that the figures named on rosins are considered fairly good, when taking into consideration that prices of naval stores throughout the last season have been high, and in fact far above normal. Further developments are awaited with keen interest and at present no one ventures to predict the future course of the market which is in a very unsettled state. A significant feature in the Savannah market has been the recent advances in the price of futures. Bids of fifty-three cents have been placed on the market for parcels to be delivered any month or combination of months. This has been followed by a further rise in prices, with sales of one thousand casks of May-August futures at fifty-four cents, which price is the highest on record in the history of the trade. After a long unbroken period of decided firmness in prices in Savannah the market toward the close of the week became dull and declined slightly, and bids at lower prices were made, but factors were indifferent and showed a preference for carrying over a large part of their receipts.

"Akremnin."

This is a patent soap preparation claimed to counteract the danger of lead poisoning to persons engaged in white-lead factories, and also in other works where the handling of lead compounds is attended with risks to a greater or less extent, since ordinary soaps convert the lead salts into very adhesive sebacic acid lead compounds, which remaining upon the hands are conveyed into the system. By the use of Akremnin, produced by the Chemische Werke, Freiburg (Eng. pat. 9638,, ,1904) the formation of lead soaps is prevented; it admits, however, of thorough cleansing and at the same time transmutes the lead compounds into lead sulphide, which is known to be practically harmless. One washing is said to be sufficient to free the skin entirely from lead particles.

The process of preparation is as follows:

To already prepared soap certain chemicals either ground or in solution, are added, which give off protosulphide of hydrogen, or are changed into sulphides with metallic salts. The mixture is then stirred at a primary temperature of 30° C. until perfectly homogeneous. Prior to the occurrence of the chemical combination a suitable quantity of firm pulverised material, such as marble dust, etc., is added, and the mass is then allowed to cool and set. The process can also be used in the same way as antidote or preventive means against copper, arsenic or mercury poisoning.

Recipes:—

I.	200	parts Cocoa-nut Oil.
	60	parts Salt and Lye.
	66.238	parts of a substance containing H_2S, such as Mercaptan for example.
	50.24	parts of a chemical purifying substance.
	6.74	parts of any Perfume.
II.	150	parts Cocoa-nut Oil.
	32	parts Alkali substances.
	73.2	parts of a substance containing H_2S, such as Mercaptan for example.
	43	parts Sand.
	6	parts Perfume.
	12½	parts Vaseline.

The above is further explained as follows:

Painters, whitewashers, varnishers, and in general workmen who handle compositions of which lead is an ingredient, will sooner or later suffer from lead poisoning. Despite the most scrupulous cleaning, the hands will retain some traces of the lead, which ultimately find their way to the mouth in eating, drinking, or smoking. The ordinary soap may, chemically considered, be one of the most deplorable cleansing agents, for the chemical combinations to which it may give rise when applied to paint-stained hands may even increase the amount of lead adhering to the skin.

A German chemist has invented a soap for the purpose of so acting upon the lead adhering to the skin as to render it absolutely harmless. The particles of lead are changed into non-poisonous sulphide of lead by the simple process of washing with this soap.

The chemical principle underlying the use of this soap is simple enough. It consists simply in producing sulphureted hydrogen, which transforms the lead into harmless sulphide of lead, and renders it possible to cleanse the skin thoroughly. In washing the lead-stained hands with the soap, the skin becomes brown—evidence of the presence of lead. The brown color is readily removed by a thorough cleaning with the brush, and the skin loses the odor of sulphureted hydrogen. The soap itself is agreeable to the smell.

To the chemist it is obvious that a soap of this kind ought to be effective, not only for the purpose of preventing poisoning from lead, but from copper, mercury, and arsenic as well; for these, too, can be converted into innocuous sulphides.

Perfumers' Association and Freight Rates.

The Manufacturing Perfumers' Association at its last meeting adopted the following resolution:

The discrimination made by the Trans-Continental Freight Bureau against some of the products of the members of the Manufacturing Perfumers' Association was a prominent subject brought to the attention of the members at the recent meeting held in this city, when the following resolutions were adopted:

Resolved, That the Committee on Freight and Transportation, in the name of this association and all other shippers who may join us, make a demand upon the Trans-Continental Freight Bureau for re-classification of freight rates upon said commodities; that perfumes may be carried at the same rate as toilet waters, viz., $1.90 per 100 lbs., and tooth, toilet and face powders at the same rate as soaps, viz., $1.25 per 100 lbs., where the value exceeds 10c per pound, and $1 per 100 lbs, where the value does not exceed 10c per lb.

And be it further resolved, That in the event of the Committee on Freight and Transportation finding it impossible or impracticable to obtain equal rates on perfumes with toilet waters and upon tooth, toilet and face powders with soaps valued at over 10c per pound, as desired, then that said committee be authorized to make a demand for such equal rates upon perfumes when consigned at a value not exceeding value of toilet waters

and upon tooth, toilet and face powders when consigned at a value not exceeding the value of toilet soaps, provided that said committee shall, and hereby is fully authorized to ascertain, determine and fix the proper limits of values to be placed on the respecive commodities for the purpose of obtaining such equal rates.

In accordance with these resolutions the Committee on Freight and Transportation has issued the following appeal to the members:

Your committee urges upon each individual member and all those interested to co-operate for the purpose of obtaining redress from the excessive freight rates now existing. A concerted movement to have this matter adjusted is now in progress, and we trust to have your hearty support. If so, kindly be governed by the following:

First—Date and sign the enclosed petitions, returning "originals" to this office.

Second—Write a letter to each of the freight officials representing the railroad lines mentioned on enclosed slip. This letter can be expressed in your own language, urging the necessity for relief from present excessive freight rates (the enclosed petition signed will serve the purpose).

Third—Address a similar letter on the subject to the local or general freight agent of the road or roads entering your city, with whom you do business, and ask said agents to kindly take the matter up in your interest or behalf, with his connections with the Trans-Continental Freight Bureau. This will tend to help our cause.

Fourth—Make a carbon copy of each letter you write to the several companies, and mail to this office with the original petitions, A and B, intended for your signature.

Fifth—It is the intention—when the various roads have been addressed by all our members and those interested—to present a formal petition to the Trans-Continental Bureau at one of their important meetings, which petition shall be accompanied by the signed individual petitions from all members.

In General—The movement as outlined above would be effective only where all members act in unison, and it is earnestly hoped that in the interest of all concerned these petitions may be forwarded to the proper freight officials; and that the volume of this correspondence with recommendations from superior officers will induce the Trans-Continental Board to change the present exorbitant commodity rate on perfumery to Pacific Coast terminals.

Gentlemen:

We respectfully submit to you and through you to the transportation lines you represent, this petition for relief from the excessive rate of freight and arbitrary classification that now exists upon perfumes, as opposed to Florida waters and toilet waters shipped to Pacific Coast terminal points; and in support of our petition we beg to submit, for your consideration, the following reasons:

First—Your petitioners are the Manufacturing Perfumers' Association of the United States and manufacturers, merchants and shippers generally handling all classes of perfumery, including both perfumes proper and Florida and toilet waters.

Second—Under your present classification upon shipments to Pacific Coast terminal points, perfumes are charged at the rate of three dollars ($3) per hundred pounds in less than carload lots, while Florida and toilet waters are carried at a rate of one dollar and ninety cents ($1.90) per hundred pounds in less than carload lots.

Third—Your petitioners aver, as appears from the following tables, compiled from average shipments of the commodities in question, that you are exacting from your shippers twenty-six (26) per cent. more freight upon perfumes than for an equal bulk of toilet waters, and fifty-seven (57) per cent. more freight upon perfumes than upon an equal weight of toilet waters, although the two commodities are nearly identical from the carrier's standpoint.

COMPARATIVE TABLE OF EQUAL BULKS OF PERFUMES AND OF TOILET WATERS.

1 cu. ft.	Value.	Weight, lbs.	Freight.
Perfumes	$14.37	23.20	$0.696
Toilet waters	9.36	29	.551

COMPARATIVE TABLE OF EQUAL WEIGHTS OF PERFUMES AND OF TOILET WATERS.

100 lbs.	Value.	Bulk.	Freight.
Perfumes	$61.90	4.3 cu. ft.	$3.00
Toilet waters	32.20	3.4 cu. ft.	1.90

Fourth—You will appreciate that this very marked difference in freight, because of this classification of perfumes as distinct from toilet waters, works a serious injustice and inconvenience to your petitioners. Our shipments are not of perfumes exclusively nor of toilet waters, but are of both, and yet, if a sale contains but a small item of perfume proper, the entire shipment must stand the excessive rate of three dollars ($3.00) placed upon perfumes or else several items of the one sale must be packed and classified separately. This necessarily interferes with shipments in large lots; it makes freight an item of varying expense with us; the increased labor in billing and handling wastes time for shipper and carrier and increases responsibility for the latter; and generally, this present unwarranted classification of perfumes interferes with the free use of your transportation facilities that we desire and which we believe you wish to furnish.

Fifth—The juctice of our claims is recognized by other classification committees as under schedules of both th Official Classification Committee and of the Wes-

tern Classification Committee perfumes and toilet waters are carried at a similar rate.

Sixth—A modification of your classification rates that will place perfumes, Florida waters and toilet waters under one classification, at the uniform rate of one dollar and ninety cents ($1.90) per hundred pounds in less than carload lots, would rectify the matter complained of and give your petitioners the relief desired.

Seventh—We submit, that inasmuch as your petitioners are uniformly shippers of both these commodities, and the present classification hampers the free use of the transportation facilities extended by you and is not in accord with the uniform classification given elsewhere; and because the goods themselves are packed and shipped alike and are in general identical commodities from the carriers' point of view, our request for a uniform classification upon these commodities is reasonable and should, in justice, be granted by your Committee. Yours very truly,

(Signature).....

The Enfleurage Process.

The enfleurage process of extracting perfumes was recently the subject of an interesting and carefully considered decision by the Board of General Appraisers, the general application of which may be summarized as, that while the products of the volatile solvent process for the extraction of odors from flowers are free of duty as "enfleurage grease," the latter term does not embrace similar products derived from odor-bearing bodies other than flowers.

The special case in point was occasioned by the importation by E. H. Burr, at New York, of merchandise called "concrete iris de Florence extra," derived from orris root, in whole or in part by distillation. The Board decided this was dutiable at 25 per cent. ad valorem as essential oil of orris.

OPINION BY THE BOARD.

In weighing testimony the Board delivered the following opinions:

"There is much of conflict in the evidence before us, not only as to how the article represented by Exhibit 1 was produced, but also as to what is the significance of the term "concrete essence" as applied to it: and we are inclined to the belief that there was a great deal of speculation or, to speak plainly, guessing, on the part of the witnesses, as to the particular processes of which the merchandise, in the condition imported, was the result. It is therefort fortunate, we think, that the real question involved in not to be determined by the processes of production or the significance of the term "concrete essence' as applied in France to flower essences.

"One fact appears to be clear regarding the enfleurage process, viz., that when it was introduced and became known as a medium for conveying the odor of flowers from the place where they grow to the place where the perfumery is made, it had a meaning much more limited than that which in recent years it has been sought to extend to it. The term 'enfleurage' is defined by the Standard Dictionary as 'The extraction of perfumes by treating flowers with odorless fats,' and by the United States Dispensatory (18th ed.) as follows:

"This term is applied by the French to the impregnation of fixed oils and fatty matters with the odor of certain sweet-scented plants, such as jasmine, tuberose, and mignonette, the oils of which are so delicate and fugitive that they cannot well be separated by distillation. The process consists of exposing the fatty matterter placed in lawers, in suitable frames, to the exhalation from the *flowers,* which are absorbed, and give their characteristic odor to the fat. Another plan is to expose alternate layers of the *flowers,* and of cotton impregnated with bland fixed oil, to the sun, and afterwards to express the oil from the cotton. The French some times give to the spiritous solutions made by extracting the odors from fats and oils with alcohol the name of essences.

A FORMER DECISION.

"In United States v. Dodge & Olcott the court defines the object of the enfleurage process to be:

To carry the odor of *flowers* from the place where they grow to the place where the perfume is made. Among the various enfleurage processes is one whereby the *flowers* are either brought in contact with, or close proximity to, some fatty or greasy matter, such as animal fats, vegetable oils, and certain preparations of petroleum, including vaseline. The fatty substance absorbs the odor from the *flowers,* and the absorbent or solvent may or may not be then removed by heat, leaving the body of the perfume. This product is not then a completed product in the sense that it is ready to be used by the ordinary consumer, but when subjected by the perfumer to the influence of alcohol the alcohol leeches out the perfume. The article in question is a highly concentrated essence or extract, produced by the enfleurage process, in which some variety of petroleum was used as the original solvent. After being subjected to heat a mere undefined vestige of the petroleum remains, and the resultant product is described at the *wax of the flower* or a *concentrated essence.*

"It is evident that since the enfleurage process was first introduced there have been radical changes in the methods used to extract the flower odor and convey it to the manufacturer of perfumery, and at least some of the products of these changed methods have been recog-

nized by the court in the Dodge & Oleott ease as being enfleuraged greases within the meaning of the term 'enfleurage grease' as used in said paragraph 626. It appears that the old or original method of spreading the fatty substanees in layers and plaeing thereon the petals of the flowers has not been abandoned, but the method of extraetion by the volatile solvent process is the one more generally used, and the advantage of the latter over the former is stated to be that one ounce of the coneentrated product by the new proeess equals in substanee three pounds of the produet of the old method. As an original proposition, in view of the evidence before us, we might have been inelined to hold that the coneentrated produet of the volatile solvent proeess was not the enfleurage grease provided for in paragraph 626, but we think the court has determined in favor of the contrary view. One faet seems to us, however, not to be open to dispute, viz., that from the eourt's own expression and authoritative definitions, the enfleurage proeess is eonfined to the extraction of the odors of flowers, and 'enfleurage grease' denotes a vehiele for carrying such odors only.

POINTS OF DIFFERENCE.

"The merehandise here involved is deeidedly not the coneentrated essenee of a flower, no matter what may have been the process by whieh it was produced. It is the extracted odor of the root of the orris plant, and to this extent at least there is no disagreement. It was the evident purpose of importer's counsel to show that conerete essenees had been produeed 'from other odor-bearing vegetable bodies than flowers,' and in this we think he was sueeessful, but it does not follow from that faet alone that essenees so produeed are enfleurage grease. The most that may be said in this respeet is that odors other than the odors of flowers are extraeted by the same means used in the extraetion of flower odors.

"Another marked distinetion between enfleurage grease and the merchandise in question whieh, we think, is established by the reeord, is that the former, when mixed with aleohol, is only partially soluble, there remaining a residue of the wax of the flower, while the latter is wholly soluble in aleohol.

"The appraiser, in his special report aeeompanying the protest, states the merehandise to be oil of orris, 'obtained from orris root by steam distillation, or by extraeting the root with ether, and steam distilling the residue left on evaporation, neither proeess being that of enfleurage." This report is supported by the evidenee of the witness, Moore, the government's ehief chemist at the port of New York, in his testimony, where he states that:

"To obtain concrete oil of orris sueh as this (referring to Exhibit 1) the extraetion proeess is earried out the same as deseribed in the Dodge & Oleott case, but subsequently the produet, whieh is not of this deseription, has to be either distilled or manipulated possibly in some new way to obtain a white product. The first product of extraetion is the oleo-resin, so ealled, of orris, and that is separated into a product of this kind and a resinous residue.

"The said report of the appraiser that the merehandise (oil of orris) is the result of a process of distillation, thus supported, has not been overcome by the evidenee submitted on behalf of the protestant, and it must therefore be controlling.

"Upon the record before us we find (1) that the merehandise in question is not enfleurage grease, and (2) that it is oil of orris, an essential oil, the result in whole or in part of a proeess of distillation.

"We therefore hold that duty was properly assessed and overrule the protest, affirming the deeision of the eolleetor."

New Oil.

The baobab tree, which has been transplanted from Africa to Asia and Ameriea, has a fruit whose pulp—"monkey bread"—is eaten by negroes, and seeds that are prized by natives of Madagasear for the oil that is abstraeted by crushing and boiling in water. A French chemist has been investigating. He finds that the round seeds grow to a diameter of three-fourths of an ineh, that their kernels eontain 53 per eent. of oil, with much nitrogenous matter, and that the Madagasear oil is a whitish solid whieh begins to melt at about 25 degrees Centigrade. The odor reealls Tunisian olive oil. The oil does not beeome rancid, and is suggested as a valuable produet in plaee of cocoanut oil and in fine soap and unguents.

A Reminiscent Launderer.

"Jay Arpee," dating his letter from New York City, writes to the National Laundry Journal:

In the latter '70s I was working in a hand laundry in a thriving western eity. There were but few steam laundries then and not one within five hundred miles that I knew of. Laundry supply dealers were unknown to me. Soap and starch were bought at the grocers and later at the wholesale houses, being put up in bars and small paekages respeetively, in boxes of about forty pounds.

The question of soap beeame an important one. That whieh we had been using was put up for family use, expensive, resinous and had a tendency to yellow the goods. We soon began to think of using a soft soap. Practical soapmakers were scarce in that part of the eountry at that time.

We finally found one, an old German, who lived at the outskirts of town, who made a species of soft soap, which he sold to hotels and other places for dishwashing, scrubbing floors, etc., taking waste kitchen grease in part pay wherever they had any.

His soap was a more effective dirt eradicator and an improvement in a general way, but far from good, however, we soon began to use it in quantities that surprised him and I fear the demand was greater than his supply of soap stock or his facilities could fairly supply, at any rate he soon fell by the way in the temptation not unknown to present day soapmakers, and in order to supply the quantity demanded, or for some other reason, reduced the quality, which reduction finally reached such an extent that we began to consider making our own soap.

Successfully making a good soap, particularly a soft soap, seemed to be as yet either an undiscovered or a lost art. Our search for information was an extended one. We had no laundry journal then. We finally learned that there were some valuable books on soapmaking to be had, but to get them or even learn definitely what books they were was indeed another nine miles. After considerable correspondence we were informed that there were two reliable publications on the subject, one of which was listed at thirteen dollars and one at about twice that amount, but our informer was not able to say that he could procure either of them, but would try to do so if we would state which one we desired or whether both were wished, and forward the price. We sent for one of them, but I forget now which one.

Now the point of this recital, and one of the points illustrating the advantages and value referred to in my opening paragraphs, is this:

The present day launderer has not only a valuable trade journal to look to for information on current events, but he gets it for a nominal figure, and with it gets *free* a book that contains *more* information which is of *practical* value, than we were able to get in those days even after spending months of search and many dollars.

I would like to recite our experience in breaking into the bleach mystery in those days, as well as experience along other lines, but I have consumed too much time already on soap, and I fear you will feel that I am consuming too much of your valuable space.

It is reported that a factory has been established in Honduras for making soap and candles in sufficient quantity to supply all the wants of the country.

There is a big demand in the market for the soap from the Goshen plant.

"Palm Oil."

The following amusing skit on the subject of "Palm Oil" was read at a recent gathering of students of an oil and color class: In speaking of palm oil one must always bear in mind that there are two distinct articles known by this name—there is the oil which is expressed from the palm, and the oil which is suppressed in the palm—it is this latter to which I desire more particularly to direct your attention: there is no oil so widely distributed, so extensively used, so much discussed, and at the same time so little understood. The oleo-resin from which this palm oil is derived is indigenous in many parts of the globe and in widely separated areas, of which, however, the most important are the Isle of Man, Tipperary, and the Christmas Islands. As the method of production varies somewhat in each of these typical localities I will deal with each of them separately. In the Isle of Man it occurs mostly in the form of disc-shaped nodules, generally found in pockets, associated very often with a gangue of extraneous materials of most curiously diverse character, such as fragments of tobacco, steel and iron in different forms, particles of matter of organic origin, and sometimes, but rarely, a curious and peculiar substance known as pride; the palm oil is extracted from these products generally by simple expression, but in obstinate cases gentle squeezing, technically known as "bleeding," will produce the desired result. The crude oil having been thus obtained it then undergoes a refining process, which consists in melting it, and for this purpose there exist on the island numerous elaborate and well equipped factories, where all the apppliances are to be found for converting the oil into the liquid state—a curious custom prevails in the island, I might mention, for these factories to be known by all manner of fancy names—such as "Pig and Whistle," "Blue Lion," etc. In Tipperary the oil is generally found ready for use, although in some districts it occurs concealed under plate-like formations of a semi-vitrified character, which occur in profusion on the numerous table lands which form a prominent feature of these localities.

In the Christmas Islands the palm resin is found in all sorts of unexpected places, and at a certain period of the year the natives go around with boxes into which they collect the oil, which is subsequently refined in a similar manner to that described above. Having been obtained and refined in these or other localities the pure palm oil comes into the market in several grades, generally quoted under the following marks:

D or Brown. A low grade, common quality.

S or White. A medium quality, bright and milled.

L or Yellow. Fine quality.

Occasionally one meets with an extra special quality marked "Paper," but this is rather rare, and is much

sought after; this variety is rather unstable, and unless carefully handled readily decomposes into the lower grades.

As regards the uses of palm oil I have stated above that they are numerous and varied—it is a dominant factor of government contracts, shady transactions, and hotel accommodation, and I am told that railway porters and restaurant waiters subsist almost entirely upon palm oil, which is generally D grade, mostly of Tipperary origin—sometimes when the supply is deficient they employ a substitute known as "big D."

Palm oil is also largely used for engineering purposes as a lubricant, to oil the wheels of business, as its viscosity is very low, its use therefore preventing friction and lowering the heating effect of transaction. Then, again, in the oil and color trades we find palm oil in great demand to add to linseed oil to neutralize the prejudicial effect of the accidental presence of mineral or resin oil therein. Similarly it is largely used for helping to clear off parcels of color, etc., not quite up to mark, and as a deterent to litigation. As to the real practical value of palm oil in these various directions, however, this is a much debated point—there are many who contend that, notwithstanding its prominent position and widespread consumption, palm oil is just a virulent poison wherever found, and as teetotallers shun alcohol, so these enthusiasts would banish palm oil from the face of the earth. This is a controversial subject which it will ill become one to enter into on a festive occasion such as the present, but I must confess that for my part I consider we would do without palm oil a deal better than we could do without a great many things.

Beware of Cashing Checks.

Chemists very often oblige customers by cashing checks, and particularly are they willing to do so when the check is issued by some well-known local firm, whose checks are certain to be honored on presentation through a bank in the usual way. The danger of being thus obliging has been made very obvious by a recent decision in the High Court in which a tradesman has been ordered to pay to a firm the full amount of a number of checks which he from time to time had cashed for one of the firm's employes. It seems that the employe in question was a clerk whose duty it was to prepare the firm's accounts for payment and to make out checks for signature by the partners of the firm. He abstracted some of these checks, instead of posting them on to the persons in whose favor they had been made out, and got a local tradesman with whom he did business to cash them; it transpired also that there was no money owing to the various payees of these checks by his firm. The Bills of Exchange Act 1882, in section 7, provides for cases of this kind in which the payees are fictitious persons; and the King's Bench has decided that in this particular case the names so filled in were not names of fictitious persons. The clerk had, of course, forged the endorsements before handing the checks to the tradesman; and the latter acted quite innocently—simply paying the checks into his banking account in the usual way. By the judgment of the court the tradesman thus becomes the loser of the money; and there is nothing to prevent any tradesman being thus victimized by a clever forger who has access to his firm's check book The only safe plan to adopt in such a case is to enquire from the firm itself as to the bona fides of the clerk who wishes to cash the checks; or else, to decline to handle them at all.—Brit. and Colonial Druggist.

The United States Trade-Mark Law.

Much misapprehension as to the scope of this enactment, particularly as to its effect upon rights already acquired by registration under the old law, has been occasioned by the flood of circulars issued by attorneys soliciting the business of registering marks. Some of these circulars are calculated to fill with alarm the minds of owners of registered trademarks and to cause a stampede for re-registration under the new law. We pointed out in our February issue that the new law was drawn to avoid any prejudice to existing rights. Many inquiries have since come to us, however, from those whose apprehensions have been aroused by these circulars, and who are led to believe that existing registrations are nullified by the repeal of the old law and that their applications for re-registration under the new law should be filed with all possible haste.

Registration under the new law either of marks already registered or of marks not heretofore registered, though highly desirable, is not in any sense compulsory. The common law right of property in a trademark, gained by priority of use, is expressly preserved and may be enforced at law and in equity in the same manner and with the same effect as if this law had not been passed. Moreover, as to marks already registered under the old law, it is provided that the certificates shall remain in force for the period for which they were issued, thereby preserving such limited rights and advantages as are evidenced by those certificates. Marks already registered may, however, be re-registered under the new law, and thus secure the greater measure of protection which it affords.

The wisdom of securing this protection is shown by a consideration of the many and important advantages of the recent act.

As to marks already registered, the conspicuous advantages are four in number:

First.—It gives jurisdiction to the federal courts of actions against infringers engaged in interstate commerce. Under the old act, these courts have jurisdiction only when the infringing mark is used in foreign commerce.

Second.—In any action for the infringement of a registered trademark where the plaintiff prevails, he may in the discretion of the court recover damages in three times the amount of damages actually found to have been sustained.

Third.—An injunction obtained in a suit before the federal courts may be served and enforced anywhere in the United States, instead of only within the circuit where it was issued as formerly.

Fourth.—Infringing labels or wrappers bearing marks found to infringe may be ordered delivered up and destroyed.

Fifth.—Registrations under the new law may be made in the exact form in which the mark is actually used. Formerly registration has been so restricted by the requirement that the "essential feature" be specified, that registration has seldom been obtainable in other than a mutilated form, from which the mark is actually used was often unrecognizable. By re-registration, the mark may be put upon the register in the form used, so that the examination which the Patent Office makes as a preliminary to subsequent registrations will more accurately guard the registered mark against the registration of infringements.

Furthermore, registration in most foreign countries is obtainable by an American citizen only in the form in which it is granted him at home. Under the old law, the only registration he could obtain was in a form which often afforded him little or no protection when registered abroad. It may be important in many cases to re-register marks in the United States, in the form in which they are actually used for the purpose of registering them abroad in the same form. The desirability of so doing can be determined only by the facts of each case.

The advantages above enumerated apply equally, of course, to marks that have never been registered in the Patent Office. But there are additional reasons why these latter marks should now be placed upon the register. Marks used in interstate commerce are registrable under the law, instead of marks used only in foreign commerce, as formerly. Moreover, any mark that has been in actual and exclusive use as a trademark for ten years past may be registered although not within the common law definition of a trademark. This provision is intended to extend the protection of the law to any mark which by long continued and exclusive use has acquired a distinctive character as a designation of the goods of a particular maker, whether that mark at the time of its adoption was a good trademark or not.

The following additional considerations are applicable to marks not before registered:

The broader scope of the law and the greater cheapness of registration will vastly increase the number of those who will take advantage of the law. It is probable that the register will in no long time be made an approximately complete record of trademarks in use in the United States. He who neglects under these circumstances to register his own mark, may find it registered by another who will thereby obtain the record title. The aggrieved party must then resort to an expensive and tedious proceeding if he would have the offending mark removed from the register, or would overcome the presumption of title in another which arises from the registration.

Finally, the deterrent effect of registration in forestalling infringements is unquestionably great. A trademark that is so clearly yours that no one will venture to imitate it, is worth a dozen to which you can prove title only in suits for their infringement.—Trade-Mark Bulletin.

Play Ball!

The druggist gave certain unmistakable signs of impatience, and the C. P. smiled in anticipation. To one with a sense of humor a man is never so funny as when he allows his irritability to show.

"Well?" inquired the old gentleman, "Spring fever?"

The druggist let off some of the pressure in a vicious kick at the cat, but that watchful animal escaped easily. "Spring fever," growled the man of drugs. "Yes, I dare say it is something like that. I can't get the boys to pay attention to a blessed thing. All I hear is, 'died on third,' 'two bagger,' 'drops,' 'ins,' 'pop-up-flies,' and things like that. Jimmy walks around in a half dazed sort of way—instead of washing the glass he will look through the window at the sky and make passes at imaginary balls in the air. The clerk is calling up some other daffy idiot like himself every few minutes trying to get up a drug clerks' team, and my paper, which I used to find turned to the war news, is now always open at the sporting page."

"And you find yourself out of sympathy with that sort of thing?" asked the sage.

"Out of sympathy, Rather!" replied his friend, making no effort to conceal his disgust. "I have more important matters to think about."

"I feel sorry for you," said the C. P. "Better consult a specialist."

"What are you talking about?"

"You're in a bad way," replied the sage. "I suppose if you were to pass a vacant lot containing about forty

small boys, four bricks, a pump-handle and a ball, the heavy affairs of this world would intrude themselves between your eye and that ball."

The druggist did not reply.

"You wouldn't go to the circus, even if your youngest were to talk about it every day and show you all the ads in the paper for a month?" continued the sage. "And you wouldn't go out of your way a block to see a parade?"

"I can't see what you're driving at," replied the proprietor of the store. "But on general principles, of course not. I have outgrown childish things, I hope."

The old gentleman nodded. "Those are the symptoms," he said. "I have observed them again and again. Had a touch of the same thing once myself, but I got over it."

"Over what?"

"That tired feeling about everything that interests the young. My boy, fight it! It is a sure sign that you are approaching the chloroform age. If you allow that disease to go on unchecked, your interest in the things of this world will gradually disappear until you have nothing left but an old arm chair and a pipe."

"I'm interested in making a living."

"And nothing else? In that case, you might as well quit at once. It isn't worth while."

'Look here! This life isn't made for fun," observed the druggist.

"The pursuit of happiness, according to the constitution of the United States," corrected the old gentleman, 'and happiness is mighty scarce at that. Fun is only one variety, and being so few you can't afford to waste many. Better enjoy the kind that comes your way. Besides, some enjoyment is necessary to keep you in trim for the scramble."

"Oh, well!' said the druggist. "I have enjoyment of my own kind. Bowling, for instance—"

"All right! Then don't despise the kind that the youngsters pursue. Do you want a prescription for that ancient, blasé, tired feeling of yours?"

The drug man offered no defense.

"Borrow two small boys and take them to the circus," said the sage.—Pharm. Era.

Heat Values of Elements of Coal.

The British thermal unit is the one generally used by engineers for expressing the heating values of fuel, while the caloric is used in most scientific calculations. The value of coal is sometimes expressed in the number of pounds of water a pound of it will evaporate. Since it takes 965.7 B. T. U. to evaporate one pound of water at 212 degrees F. to find the theoretical evaporation of the coal it only becomes necessary to divide its total pounds of water which the coal will evaporate.

The American Society of Mechanical Engineers has adopted as the unit of horse-power developed by a boiler, 34.5 pounds of water evaporated per hour, from a feed water temperature of 212 degrees F. into dry steam of the same temperature. This will, of course, be equivalent to 34.5+965.7, or 33,317 B. T. U. per hour. The quantity of coal theoretically necessary to develop a horse-power hour may therefore be found by this simple proportion, thus: B. T. U. per pound : 33,317 :: 1 : quantity necessary to produce one horse-power hour.

There are two ways of arriving at the heating value of coal now generally in use, and a third has recently been proposed. They are: First, direct determination by ascertaining the rise of temperature product in a known weight of water by the combustion of a known weight of coal. Second, calculation from the results of an elementary analysis which gives us the percentage of carbon, hydrogen and oxygen in the coal. Third, calculation from the percentage of moisture, ash and sulphur found by proximate analysis. Of these three methods the first is of greatest accuracy, but requires an apparatus known as a coal calorimeter, of which several are in the market.

The calculation of the heating value of coal from its ultimate analysis is simple and gives fairly accurate results. The analysis is, however, long and tedious and requires much apparatus. If this has to be bought, it will pay better in the long run to get a good calorimeter and determine the heating values of coal by direct combustion. The calculation of the heating value from an ultimate analysis is simple and is based on the heat units produced by the elements carbon, hydrogen and sulphur, on being completely burned to carbon dioxide, water and sulphur dioxide respectively.

The following are the heat values of the elements mentioned: 1 pound carbon equivalent to 145.40 B. T. U.; 1 pound hydrogen, 62.030; 1 pound sulphur, 4.050. Since oxygen combines with one-eighth its weight of hydrogen, it is necessary to deduct from the percentage of hydrogen found one-eighth of the oxygen found, since this hydrogen is already combined with the oxygen and hence produces no heat.

Getting A Job.

In common with other business men we occasionally resort to the want columns of the papers when in need of help. Then begins an experience which it is reasonable to suppose is shared, in some particulars, at least, by others who take this step. It is partly with the hope of benefitting those who advertise for help that we bring up the subject just here, but more with a view to helping

the fellows who answer the advertisements, as these, notwithstanding our bitter experience on the other side of the question, still are the ones who have our sympathy.

In the first place, want advertisements are paid for by the word, and it is not reasonable to suppose that the advertiser in preparing his copy wastes words and increases his expense by putting in a lot of meaningless phrases. In other words, when he says, for instance, "state age, experience and salary expected," he does so because he desires that information to assist him in arriving at a decision.

To take up the last specification first: It may be that the vacant position will not pay over ten dollars a week, so it would be a waste of time all around for a forty-dollar-a-week man to enter into a correspondence or secure an interview regarding it. On the other hand, a man who has never been able to earn over ten dollars a week would hardly measure up to the requirements of a forty-dollar position.

"Then why does not the advertiser specify," some may ask. When one reason is sufficient others are not necessary, and we can give one good one and some others too. If an employer wants a forty-dollar man and says so in his advertisement, there is nothing to prevent the ten-dollar man from gaily offering his services and indicating his willingness to accept, along with the burden of the work, the further one of undertaking to dispose of the salary. But if no figure is mentioned in the notice, the low-priced men will indicate what they are in the hope of thereby securing favorable consideration and by so doing will relieve the employer of the laborious and time-consuming process of sifting them from the ranks of the "possibles." Then, too, many positions are so elastic that they may be made to fit a fifteen, twenty, or twenty-five-dollar man, it depending upon the man himself how much he will be able to earn in them; or it may be the advertiser has several positions at various prices to be filled.

The seeker after work considers himself between two horns. If he says he expects a certain good salary he may fail on one of them and fail to get the place, which he would be glad to secure at less than the figure he names; or he may offer his services for really less than the employer expects to pay, and thus secure the job and lose two to five dollars each week he fills it. A good way for him to avoid the dilemma is to write that he is accustomed to earning from so much to so much, according to the nature of the work, the time required etc.

The question of experience is a most important one, and one which most people who have any and apply for positions are not averse to answering. Indeed, the applicant should guard against prolixity here, just as much as against too great reticence concerning other matters. Now and then some particularly "breezy" fellow will dash off a brief and cock-sure kind of note in which he disdains to give any further particulars than merely to say that he is the man for the place, and asks for an interview. That style may suit some employers, but just what kind we can not think now.

A straightforward, dignified style of letter, long enough to give necessary details, but no longer, is the kind to write. If the applicant has spent all his business life with a concern which has cramped him so that he has been unable to acquire the growth he desires, he should so state. If he has had a varied experience, it would not be a bad idea for him to give the names of the principal firms for whom he has worked, the nature of his duties and the length of service with each, and reasons for making the changes—provided, always, that he was not incontinently "fired" for gross incompetence or worse, in which case we would not advise him to go into minutiæ, and such advice would be in vain if given.

Age—and since the newspapers have so widely misquoted and enlarged upon what Dr. Osler said, this is a tenderer subject than ever with many—is next to be considered. Some positions are best filled by men of mature mind and settled habits, and again may be a young fellow to grow up in the business and adapt himself to its requirements by "first intention," so to speak, is the only kind of applicant that would be considered. A man in search of work, no matter his age, will say—and honestly believe—that he is willing and able to conform to the wishes of his employer regarding the manner in which the work is to be done. There can be no question at all that a man grown gray in the performance of a certain kind of duty knows better how that duty is to be performed than some young upstart (as he himself would be likely to call a youth of twenty-odd or thirty summers), but the fact remains that not a few men, like plaster, get "awfully sot." So long as old plaster is set at the right place and in the right shape, it is better than new, but when its application to a new wall, or its readjustment is required, all must recognize its limitations. Of course this comparison is hardly fair to the older men (we are a little gray ourselves), but the idea is there. A man who has learned to do a thing in a certain way and is thoroughly convinced that that way is the best, in fact the only correct one, will not readily fall into the new methods of a younger man with whom he may secure a clerkship. On the contrary, the chances are he may try to reverse the wheels of time and of progress and to make the younger man see things from his standpoint. And even if that standpoint is the correct one, that fact makes matters no better for either party concerned—unless the employer is willing to learn. The younger man, having due respect

for age, hates to "call down" his employe in the same way that he would one younger than himself, consequently he lets the older one go at the first opportunity and avoids getting one like him. No doubt the old men who read this will say this is an extreme view. Granted. There are many positions, as already stated, in which the calmness and wisdom which we usually associate with years, are desirable if not essential, and if all the men over forty, or even those over sixty, were suddenly transported it is greatly to be feared that the schedules of the world would take on a startling and distressing resemblance to those of the elevated and subway trains in this city during the recent strike. However, we are now writing neither for nor in defense of old age, or oslerism, but merely to say that it is the advertiser's privilege to be his own judge in this matter after all the facts are before him. When a man advertises for help and asks that those who reply state their age he does so because he wants to know, and if an answer does not comply with the request his letter is entitled to no more consideration than it is likely to receive.

On general principles it is annoying to a man who has advertised for help, and specified what the applicants should state in their replies, to receive answers in which his specifications are ignored. To begin by annoying the man to whom one goes for a position is poor policy, to state it mildly.

It is distressing to need competent and trustworthy help and not be able to get it, but notwithstanding our own experience in such matters, and what we have heard and believe of the experience of others, our sympathy, as stated in the beginning, is with the man who wants work and is unable to find it. We know that in his anxiety to secure remunerative employment he will overstep all set rules if he happens to think that by so doing he can gain a foothold. Still, a few suggestions in addition to what we have said may not be out of place:

It should be borne in mind that even though the concern advertising is a corporation—which is known to have no soul—the man who reads the letter and attends to the hiring is a human being, with human feelings and human shortcomings.

We have spoken of the cock-sure kind of letter-writer. Another kind is the too humble. Manliness is admired by all, being a very different thing from "freshness," and undue humility indicates lack of former success.

Do not write on a postal card; to do so is to advertise that you are a "cheap" man.

If you have a position, say so, and state whether you are determined to quit it, and, if so, why. Many employers do not like to take a man out of an assured place, only to find after trial that his unsuitableness for the one they have compels them to send him away without any position.

Do not enclose a stamp for reply. If your letter makes the right kind of impression it will be answered. What did the man advertise for, if he did not intend to pick out someone for his work? If it is not considered worth an answer, the stamp will not secure one.

While typewritten correspondence has its advantages, there are many people who think they can judge character by handwriting, so answers to advertisements for help should be written by hand. Then, too, the position may be one in which handwriting, per se, would count for much.

There could be much more said on the subject, but perhaps what is here given will prove as valuable as if it were twice as much.—Druggist's Circular.

Earth-Nut Oil.

Earth-nut oil is one of many oils which have a large number of names—Arachis Oil, Ground-nut Oil, Peanut Oil and Earth-nut Oil.

The earth-nut is the fruit of a creeping plant which is now grown in practically all tropical countries. Senegal and Congo on the West Coast of Africa; the more recent East African Colonies; the United States, particularly in the Carolina district; India, in the neighborhoods of Bombay and Madras; China, Japan; all contribute to the enormous supply of earth-nut oil which is yearly consumed.

The name earth-nut or ground-nut was given to the seeds of *Arachis hypogoea* on account of their peculiar habit of ripening under ground. The fruit is an oblong rounded nut, the shell being pale yellow in color and rough on the surface. It is perhaps best known in this country by the name of "Monkey Nut." The shell is soft and easily broken, and within it there are, as a rule, two seeds or kernels of a reddish-brown color. It is from these seeds that the oil is obtained.

For the purpose of oil manufacture the nuts are imported in large quantities to Europe. Marseilles factories prepare a considerable part of the oil. In some cases, for the purpose of economy of freight, the nuts are shelled before being dispatched, but when sent long distances in this way, the kernels are apt to become rancid. As the shells make up over 20 per cent. of the total sent, it will readily be understood that a considerable saving would be effected by forwarding the kernels alone, were there no disadvantages to neutralize the saving. A use has been found for the shells in the manufacture of paper-pulp. The Concular Reports of the United States furnish the following description of the method of preparation of the oil.

The first operation, on the arrival of the nuts at the factory, is the winnowing of the dirt and other foreign matter. When this has been thoroughly removed the nuts are conveyed by mechanical means to a machine which breaks and removes the shells. The kernels, freed from their outer coating, are passed through cast-iron rolls, where they are ground to a coarse meal, and any stones which may be present separated. In a second mill the grinding is repeated, the meal being reduced to a much finer state. It is passed through a sieve, and the portion retained by the meshes is returned to the mill to be re-ground with the next batch.

The meal is placed in horse-hair cloths and pressed, without the application of heat. It is then returned to the mill and re-ground, after which it is pressed at a temperature of 70° C. A third pressure is sometimes applied. From the first pressure by far the largest proportion of oil is obtained, from 30-40 per cent. The second and third pressings yield about 4 per cent. and 2½ per cent. respectively.

To obtain a very fine quality of oil the coarse ground meal is pressed first of all. This quality is used for culinary purposes.

The report referred to above gives the yield of oil from different varieties of ground-nut in the following order:

Senegal	51
Congo	49
E. Africa	49
American	42
Bombay	44
Madras	43

The American ground-nut is larger in size than the average, and has a very pleasant favor, but it gives a comparatively poor yield of oil.

The ground-nut is grown on the island of Formosa, where the natives themselves extract the oil, which they use for lighting purposes and for food. An official report described their method of obtaining the oil. The nuts are dried in a brick oven or tank, heated by a slow fire. They are then crushed by horizantal rollers, working in a circle and driven by oxen. The husks or shells are broken up and sifted clear of the kernels. It is said to take six hours to crush fourteen cwts.

After the kernels have been thoroughly pulverised they are made into round cakes which are wrapped in rice straw twisted together at the rims. These cakes are placed in a press which consists of a cylinder which opens down the middle to permit of its being charged. The cylinder is packed with layers of the round cakes. When it is full, wedges are driven in and the oil exudes. Naturally the yield by this method is much smaller than that obtained by the aid of the hydraulic press.

Earth-nut oil, as obtained by cold pressure is almost colorless, and has an agreeable taste which gives it a good market as a salad oil. The oil from the second pressure is of poorer quality. It also is sometimes used as a comestible, and the poorer varieties, along with the oil from the third pressure, are used in soap-making.

The iodine value of earth-nut oil lies between 90 and 100; its specific gravity is, on an average, about .917. It is a thoroughly non-drying oil and has been used as a lubricant.

Another use to which this oil is largely put is the adulteration of olive oil.

Modification of the Halphen Reaction for the Detection of Cotton Seed Oil.

(From the French of Dr. A. Steinmann, in the Journal Suisse de Chimie et Pharmacie.)

The Halphen reaction, which admits of the detection of slight quantities of cottonseed oil in a mixture of oils, is one of the surest tests made use of in the analysis of oils.

The operation consists in heating in an ordinary water bath, or one saturated with sea-salt, a mixture of equal parts of the oil to be examined, of amylic alcohol and of a 1 per cent. solution of sulphur in carbon sulphide. If cottonseed oil is present a red coloration will appear in a quarter of an hour; or if this does not appear, it is necessary to add sulphureted carbon sulphide and recommence the heating. If on this repetition a red tint is not produced, the absence of cottonseed oil is demonstrated.

Attempts have been made to omit the employment of amylic alcohol, which at first thought seems to act only as a simple solvent, considering that the heating of the oil with the solution of sulphur would itself produce a red reaction in presence of cottonseed oil. But it will soon be ascertained that in the absence of amylic alcohol, the reaction is much slower, less intense and consequently less noticeable. Its influence is not yet explained.

The heating of a mixture containing carbon sulphide is attended with inconvenience. The liquid boils and tends to be thrown out. The odor disengaged is very disagreeable, and if many tests are made at the same time there is danger that the vapor will take fire.

To avoid such obstacles, the mixture has been heated in a vessel provided with a long pipe serving as a con-

denser. But this arrangement is troublesome; it is cumbersome and the temperature to which the liquid ascends on boiling is lower than that of the water bath, on account of the boiling point of the carbon sulphide, which constantly falls back into the receiver; thus the reaction is slower.

I have tried another method, which appears to me to avoid the defects mentioned, while attended with the rapidity and sensitiveness of the standard Halphen method. It consists in producing the reaction, either in a sealed tube, or in a thick test tube furnished with a glass stopper.

I will give the details of the process. An ordinary glass tube ten or twelve millimeters in outside diameter, of which the walls are one millimeter thick, is made use of. From this, tubes are prepared, which are closed, slightly bulging at one end, and drawn to a slight diameter at the other end, one-half or one millimeter. The length of each tube may vary from eight to twelve centimeters. A mixture is made of oil, amylic alcohol and sulphureted carbon sulphide. This is put into a small capsule and introduced into the tube, immersing in the liquid the point previously heated. It is drawn in by the contraction of the air, and the introduction of the liquid is stopped as soon as it nearly fills the fourth part of the capacity of the tube, which is closed by the lamp, and the sealed tube placed in the water bath.

When a number of tests are to be made, it is sufficient to put the tubes in one of the wire baskets made use of by bacteriologists. The whole is plunged in the water bath, taking care to note in what compartments the samples are placed respectively.

The danger of explosion of the tubes is very slight, if tubes of the dimensions mentioned are made use of, and if they are put first in the water bath cold, and heated afterward.

To avoid all risk, the hot tubes may be examined through a glass, or only after they have been cooled.

Under these conditions the tests have shown that the reaction takes place as rapidly, and is as sensitive as by the standard method, and the inconveniences described are not experienced. There is no fear of the projection of the liquid, the odor ceases to be disagreeable; the temperature attained by the mixture is that of the water bath, which does not occur when a condensing tube is employed, and there is no danger of igniting the vapors disengaged. The tubes may be heated as long as desired, without renewing the carbon sulphide, as usual in the current method.

It is known from experience that the quantity of carbon sulphide added is more than sufficient to cause the reaction, provided it is not driven off by volatilization.

PATENTS AND TRADE-MARKS.

The following list of recent Patents and Trade-Marks is reported by W. G. HENDERSON, Solicitor of American and Foreign Patents and Trade-Marks, Norris Bldg,, Washington, D. C. A copy of any of the following will be furnished by him for 15 cents.

PATENTS.

787,700. Soap-dispensing Apparatus. Will R. Saltzgaber and C. J. Carmichael, Knoxville, Tenn.

787,776. Antiseptic Soap and Making Same. Otto Liebknecht, Frankfort-on-the-Main, Germany, assignor to Roessler & Hasslacher Chemical Company, New York, N. Y.

789,200. Machine for Setting Inserts for Soap Cakes. Washington Berry, assignor to Berry Buoyant Soap Company, Chicago, Ill.

LABELS.

12,055. Title: "Flee-Flea Dog Soap." (For Dog-Soap.) Christopher Koch, Philadelphia, Pa.

12,099. Title: "Hoefner's Ammonia Soap." (For Soap.) A. Hoefner & Sons, Buffalo, N. Y.

1,298. Title: "Hoefner's Ammonia Soap." (For Soap.) A. Hoefner & Sons, Buffalo, N. Y.

TRADE-MARKS.

The following trade-marks are found to be allowable and will be registered if no opposition is entered against them within thirty days after their publication.

Ser. No. 43. Soap. The N. K. Fairbank Company, Chicago, Ill. The words "Garden City."

Ser. No. 45. Soap. The N. K. Fairbank Company, Chicago, Ill. The word "Damask."

Ser. No. 46. Soap. The N. K. Fairbank Company, Chicago, Ill. The words "Superior Artisan."

Ser. No. 47. Soap. The N. K. Fairbank Company, Chicago, Ill. The word "Juanita."

Ser. No. 50. Soap. The N. K. Fairbank Company, Chicago, Ill. The words "Golden West."

Ser. No. 53. Soap. The N. K. Fairbank Company, Chicago, Ill. The words "Blue Jay."

Ser. No. 55. Soap. The N. K. Fairbank Company, Chicago, Ill. The words "Big Gun."

Ser. No. 56. Soap. The N. K. Fairbank Company, Chicago, Ill. The word "Cork."

Ser. No. 57. Soap. The N. K. Fairbank Company, Chicago, Ill. The word "Rocket."

Ser. No. 58. Soap. The N. K. Fairbank Company, Chicago, Ill. The word "Albion."

Ser. No. 59. Soap. The N. K. Fairbank Company, Chicago, Ill. The word "Jaconet."

Ser. No. 60. Soap. The N. K. Fairbank Company, Chicago, Ill. The word "Alhambra."

Ser. No. 62. Soap. The N. K. Fairbank Company, Chicago, Ill. The word "Brilliant."

AROUND THE SOAP FACTORIES.

News-items sent us by our readers will find prompt attention in this column

The Standard Soap Co., of Calgary, Canada, are pushing their new factory to completion. It is of solid brick and stone, four stories high, the main building being 100x60, with a large annex for boiler, engine and machine shop. It is situated at the junction of the McLeod branch and main line of the Canadian Pacific, which is now building a side track to it nearly an eighth of a mile long. It is said to be financially one of the strongest of Western soap companies.

The Procter & Gamble Soap Co. of Ivorydale, has been incorporated with $8,250,000 capital stock. The incorporators are: William Cooper Procter, Briggs S. Cunningham, John W. Warrington, John Burchenal and William T. Irwin.

The articles were taken out in order to get under the Ohio law. The company was originally incorporated under the laws of New Jersey, and has been brought to Ohio for the elimination of double liability. The company paid the secretary of state an incorporation fee of $8,250.

Incorporated: Mount Hood Soap & Soda Company; principal office, Portland, Or.; capital stock, $5,000; incorporators, P. Feldman, F. Van Hoter and Louis Allenberg.

Paducah, Ky., business men, through their commercial club, are endeavoring to induce a soap factory to locate there.

The recently incorporated Burlington (Ia.) Soap Co. has purchased the building now occupied by the Columbian Boarding Stables Co. on North Main Street and the adjoining frame structure used by the Julius Transfer Co.

The officers of this new concern are: T. W. Alexander, president; E. Holstein, vice-president; and William Archer, secretary and treasurer. Mr. Alexander is thoroughly acquainted with the soap business, having been up to a year and a half ago an officer of the Iowa Soap Co. Mr. Holstein is also a Burlington gentleman and practical business man. Mr. Archer is at present the head of the gas company at Boone.

The capital stock is $50,000, practically all paid in. Twenty people will be employed besides a corps of traveling salesmen.

The work of remodeling the buildings will be commenced immediately. A third story will be added to the brick building and when everything is completed the company will have a home fitted for manufacturing purposes second to none in the city. Mr. Alexander expressed himself as being particularly well pleased over the purchase of the property and its location.

Camden, N. J., May 10.—The application for a rule to show cause why a preliminary injunction should not be issued against the Benzine-ated Soap Company to restrain the dissolution of the concern, was heard before Vice-Chancellor Grey in Chancery Court to-day. The complainant in the suit is William B. Reed, who was secretary of the company and claimant of a one-third interest of its stock. He was represented by Lawyers Thomas B. Hall, of this city, and Dwight M. Lowrey, of the Philadelphia bar.

The defendants are Alfred Lowry, vice-president and treasurer, and Oliver Smith, president of the company, and one-third holders of stock each. They were represented by Lawyers William T. Read and E. L. Leaming.

Vice Chancellor Grey this afternoon refused to grant the preliminary injunction applied for. He would not, however, dismiss the bill, as something might develop that would justify the granting of a decree.

Lawyer Lowrey said he thought that if the bill was amended to make it apply for a receiver, the purpose would be answered.

Vice Chancellor Grey said he would leave that to counsel.

Incorporated: Knocko Manufacturing Company; registered office, Red Bank, N. J.; agent in charge, Robert G. MacDonald; capital stock, $100,000; incorporators, Arthur E. Hewell, Robert G. MacDonald and Charles Gast. The company is to manufacture soaps and perfumery.

The Wiehle Soap Company, of Ironton, has increased its capital from $25,000 to $35,000.

The Imperial Soap Works is the name of a new factory at Fingal, Ontario.

The Cosmo Buttermilk Soap Works under the receivership of Thomas A. Davis is running with a small force of men. Six workmen are now employed. K. G. Ripley, who is managing the plant, reports that the last batch of soap was of unusual good quality and the largest in quantity ever turned out. It made about 450 gross of toilet soap. No deal has ever been closed for the sale of the plant.

Moses Goodkind, who died in New York last month, at his home, No. 1200 Madison Avenue, was born in

Stein, Germany, April 9, 1830, and came to this city in 1845. He started a soap business on the site of the present entrance to the Metropolitan Opera House. He was formerly a Commissioner of Public Charities and Correction of the city of New York.

John R. Wiggins & Co. are estimating on plans by Isaac Pursell for a three-story addition, 110 by 64.6 feet, to the plant of the Dobbins Soap Company in Camden.

McKeysport, Pa., May 15.—The Rowland Instantaneous Dye Soap Company, which was organized in this city about one year ago, and has been manufacturing its soap in Cincinnati, will shortly locate in this city. The company has reorganized and John Rowland of this city, for many years timekeeper at the National Tube Works, has been made president. George A. Briggs, of the First National Bank, is the secretary and treasurer. The officers of the company are now looking for a location for their plant.

The Hygienic Soap Granulator Co., which manufactures apparatus and soap used in railroad stations and public places, had a stockholders' meeting Saturday at the Corporation Trust Co., No. 15 Exchange Place, Jersey City, at which the capital stock of the concern was increased from $125,000 to $500,000.

According to the St. Paul "Dispatch," F. B. Strunz the other day astonished the natives by arriving at the foot of the new capitol steps and climbing them and safely descending again with his Cadillac touring car. It is no doubt quite a feat to accomplish safely, both for the machine and its chauffeur; also it is evidence of enthusiasm and thorough confidence in the machine and its capacity.

The Eathen Company, of Cleveland, O., has been chartered with $5,000 capital to make soaps, chemicals, etc. The incorporators are E. R. Cooper, C. A. Gardner, A. S. Lawrence, M. H. Gardner and V. E. Davis.

Topeka, Kans.—Attorney General Coleman this afternoon filed in the supreme court an action to void the charter recently granted for the construction of the Inner Belt Railroad at Kansas City.

The Inner Belt Railroad, it appears, is only 550 feet long, and is being projected for the purpose of taking possession of a strip of land along the river front at Kansas City by condemnation proceedings. The land belongs to Peet Brothers, the soap makers, and they refused to sell it to the Stewart-Peck Sand Company. It is claimed that the sand company then organized and chartered the Inner Belt Railroad to get possession of the land.

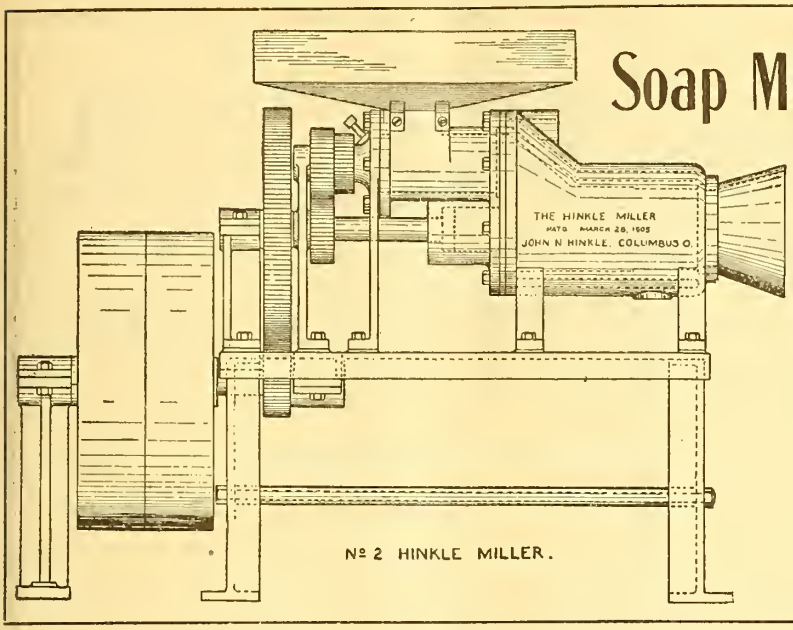
Angevine & Cubbison represent the plaintiffs, and have secured permission to use the name of the state in the suit.

Additions to Our Brand List.

356—H. E. Wofford Co., Baltimore, Md.
357—Fox River Soap Co., Green Bay, Wis.
358—Lever Bros. Co., Cambridge, Mass.
359—Lever Bros. Ltd., Port Sunlight, England.

Ammo Wash. P.—F. L. Fraser, Detroit, Mich.
Aseptine—J. A. Simonds, New York, N. Y.
Big Cape, Cape City S. Works., Cape Girardeau, Mo.
Ceral—Gustave Lohse, Berlin, Germany.
Dolly Varden — A. W. Wilwid & Co., Newark, N. J.
Fawn—Cumberland (Md. Soap Co.
Lustro—F. L. Hunt, Cincinnati, Ohio.
Merry War, Cape City S. Wks., Cape Girardeau, Mo.
Oleo—Germ.-Amer. Soap Wks., New Orleans.
Power Soap — F. Martin, Colnmbus, Ohio.
Radium—Natl. S. Corporation, Boston.
Strajuso—Frazer Soap Co., Chicago, Ill.
Strawberry Juice Transparent Glycerine S. No. 202 — Frazer Soap Co., Chicago, Ill.
Volcano—F. L. Hunt, Cincinnati, Ohio.

Angelo Olive 54
Aroma de Clavel 54
Bell's Benzene 343
Big Cannon 357
Boro Myrr 54
Bright Home 356
Cannon 357
Clavel 54
Cu-Te-Na 351
Cygnet 74
Don't Worry 74
Four Leaf Clover 54
Gasene 106
Glyco Tar 54
Golden Dawn 357
Golden Dragon 54
Golden Star 357
Gold Medal 106
Hoefner's Ammonia S. 55
Indian Tar 357
Individnal Toilet 54
It 4
Keno 106
Koko-Oil 54
Kold-Wata 54
La Batea 2
La Fiesta 54
Lazarre Castile 357
Magno 106
Navarino 357
Osmosis Soap 4
Oxykali 16
Peach Bloom 356
Pearl Borax Chips 74
Prairie 72
Prismal 106
Radio 106
San-Tar 351
Savon Fleur de Lis 54
Signet 74
Spick and Span 106
Stellar 106
Thanksgiving 313
Trix 54
Veg-Oil 113
Veget-ore 4
White Dawn 357
White Man's White Tar 357
Wofford's Complexion 356
Yellow Star 357
Atlantic Turkish Bath 16
Chancellor 16
Climax Turkish Bath 16
Cupid Rose 16
Delicia 16
Delicia Pink Carnation 16
El Merito 16
Eagle 16
Figaro 16
Harvard 16
Heliotrope d'Amerique 16
Hold Fast Shaving 16
India Cocoa 16
Klondike Nugget 16
Klondike Tar 16
Levanto 16
Matador 16
Persian Bouquet 16
Persian Rose 16
Persian Violet 16
Riviera Jockey Club 16
Royal Violet 16
Royal Rose 16
Regal Oatmeal 16
Saida Turkish Bath 16
Sanitarian Pine Tar 16
Sanitarian Carbolic 16
Sanitarian Sulphur 16
Senator 16
Trade Mark Barbers Shaving 16
Trade Mark Carbolic 16
Trade Mark Sulphur 16
Trade Mark Birch Tar 16
Yule Tide 16
Yule Tide Bouquet 16
Palestine 16
Palestine Honey 16
Magnolia Bouquet 16
Superfine Elderflower 16
Superfine Witch Hazel 16
Superfine Brown Windsor 16
Up-To-Date 16
Ascage Carpet 4
Ascage Floating Bath 4
Ascage For The Bath 4
Ascage Massage Cream 4
Ascage For The Teeth 4
Ascage For Shaving 4
Ascage Shaving Cream 4
Ascage Sulphur 4
Ascage Tar 4
Ascage Carbol 4
Anto-Ascage 4
Barbers' Bar 4
Barbers' Cream Shaving 4
Beauty Pura 4
Burlight 4
Cocoa Castile 4
Cocoa Cnra Almond 4
Cucumber 4
Cocoabutter Shaving 4
Cocoabutter Toilet 4
Disinfectant 4
Dog 4
Egg Shampoo 4
Elgin Milk and Rose 4
"Elite For The Complexion" 4
Floating Panel Bath 4
Floating Panel Ascage 4
Granular Ascage 4
Kokoabutter Shaving 4
Kokoabutter Toilet 4
Liquid Ascage For Shampoo 4
Massage Cream 4
Mechanics' Ascage 4
Panel Bath 4
Pedicnra 4
P. S. W. 4
Quaker Castoria 4
Quaker Cuti-Medico 4
Sanitary Tooth Soap 4
Savon a la Rose 4
Shampoo Cream 4
"Soaps That Think" 4
Spanish Blossom 4
Tan & Freckle 4
This Is "It" 4
This Is "It" For Shaving 4
This Is "It" For Bathers 4
This Is "It" For Mechanics 4
Universal Cleaning Mixture 4
U. S. Hygienic Toilet 4
Vegetable Toilet 4
Wise Bather 4
Witch Cream Shaving 4
Witch Hazel Cream Shaving 4
Wise Shaver 4



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No. 2 Machine will mill perfectly, in but two millings, seven and one-half tons of soap per day. Eight horse power required.

No. 3 Machine will mill perfectly fifteen tons of soap per day, going through the machine one time only, thus milling as much soap as fifteen of the old-style mills, thus saving time, labor and power. Fifteen horse power required.

MANUFACTURED BY

JOHN N. HINKLE,

COLUMBUS, OHIO.

Allentown, Pa.—The Miller Soap Company, of Lebanon, is opening a soap factory on South Third street, this city. They will gather soap fat at the homes of people and return the soap complete guaranteeing the genuine old-fashioned home made soap.

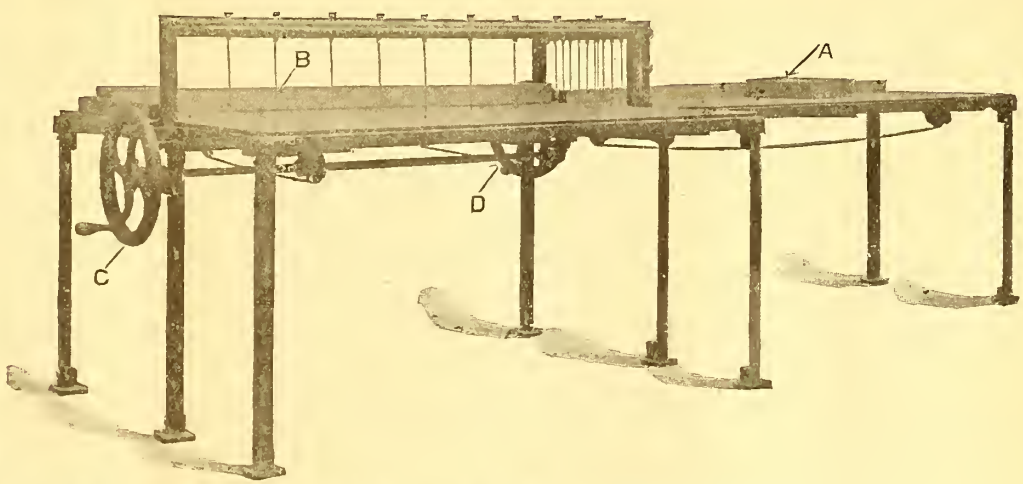
The Ehrenfried Soap Company of Tiffin, Ohio, has changed its name to the Pure Soap and Toilet Company.

The California Talc and Soapstone Company has been incorporated at Hanford, Cal., with a capital stock of $100,000. The stockholders in the company are: W. D. Trewhitt, president; David Murray, vice-president; George Aydelott, secretary and treasurer; B. F. Teague and E. H. Miles, both of Exeter. The soapstone mine in which the company is interested is located about six miles east of Exeter, Tulare County, Cal.

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Including also the Brands of Foreign Manufacture Registered as Trade-Marks in this Country.

NOTE: This list is compiled with the greatest possible care, but the publisher does not assume any responsibility other than to correct and to complete the list according to data obtained from official sources or furnished by the trade. Brands registered in the patent office as trade-marks or labels are given with the name of the party registering same. Brands or names marked * are those which were found to be used by more than one firm or the owner of which could not be ascertained. ☞ SEE THAT ALL YOUR BRANDS ARE ENTERED IN YOUR NAME.

3 Liberty Mfg. Co., Chicago.
113 Puck Manufacturing Co., Des Moines, Iowa.
344 Home Soap Co., N.Y.
345 Columbia Ref'g. & M'f'g Co. Ltd , New Orleans.
346 Beaumont Soap Co , Mayfield, Ky
347 Lockwood Soap Co., Kansas City, Mo.
348 Oklahoma Soap & Oil Co., Oklahoma City.
349 M. F. Windsor Soap Co , East Buffalo, N. Y.
350 Florida Cotton Oil Co., Jacksonville, Fla.
351 Brown Soap Co., Dayton, Ohio.
353 Southern Soap Co., Birmingham, Ala.
354 Zion City Soap Factory, Zion City, Ill.
355 Palami Co., Boston, Mass.

Abrado, Floridine Mfg. Co., New York.
A Happy Home 4
Alabama Tar 3
All-need it 286
Allpine Tar 337
Amazon Coco 337
Amber Rose 346
Ammonaptha 347
Anchor Castile 3
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Antelope 3
Antillia 2
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Anty Up 340
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Big Lnck 350
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Bleachem Soap 341
Blo-Re-Mo 333
Blossom Bonqnet 3
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Blue C'oud 2
Blue Coco 340
Blue Family 340
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Crystal Sulphur 3
Crystal Palace 3
Crystal Transparent Tar 3
" " Carbolic 3
Cuban Rose 3
Cuta Alba 3
Cultoderma Medicated 3
Cycle 3

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Der-Foda 3
Dermienra 327
Diadem 3
Dollie (Filtered) Blue 352
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" Scouring 2
" German Fam. 2
" Glycerine-Tar 2
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" Navy Blue 2
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Naptha Washing Powder—Hunt Mfg Co., Cincinnati, Ohio.
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2707 North Ave , Milwaukee.

MILWAUKEE, WIS., July 1, 1905.

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THE

AMERICAN SOAP JOURNAL

AND

MANUFACTURING CHEMIST.

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The AMERICAN SOAP JOURNAL AND MANUFACTURING CHEMIST is devoted to the interests of all manufacturing industries of a chemical character, and is an absolutely independent publication. It is the only newspaper of its kind in America and has also a large foreign circulation.

For Subscription and Advertising rates see above.

Communications on industrial subjects, news items, and any information suitable for printing in these columns, are solicited and will have due attention.

Readers in search of machinery, supplies etc., not advertised in these columns, are invited to write us and we shall endeavor to supply the information.

Address all communications to

DR. HENRY GATHMANN, Publisher,
2707 NORTH AVENUE,
MILWAUKEE, WIS., U. S. A.

Get out your list of uses to which soap can be put and enter the following addition reported from London:

Professional beggars have invented a soap of as yet secret composition of which only a trace needs to be wiped on the lips, moistened with the tongue, and rubbed very slightly by a few passes of the hand resembling convulsive movements, in order to raise a plentiful froth simulating that seen in genuine attacks of epilepsy.

The method of making this soap and the identity of the manufacturer are not known, but samples of the article have been taken from several of the gentry who make their living by working on the sympathy of their fellow-men, and it is to be hoped that an examination of the same will throw further light on the dark problems of the science of soap making.

It is a well-known fact that the soap factory as a risk, has proved unprofitable in the past to the Fire Insurance Companies. Naturally, this costly experiment prejudiced the insurance underwriters against this class of business, and in consequence, many conservative companies declined to write them, no matter how high the charge. No doubt in some instances the far sighted insurance men had good reasons for declining to write carelessly run establishments. Within the last decade, however, many improvements have been made in the construction and operation of the soap factory. During this time, the underwriters also have watched the progress of the modern builders, and it is interesting to note that at a recent meeting of the Insurance Society of N. Y., (a society with a large and representative membership among fire insurance men) Mr. E. S. Pilcher, chemist for Messrs. Kirkman & Son, addressed the members on the construction and operation of their modern Soap Factory.

The Kirkman Plant consists of five buildings representing three types of construction. Four buildings are five-story brick, of which three have iron columns and beams unprotected; the fourth is fireproof, having the beams and columns protected by terra cotta, and no wood used in its construction. Besides these adjoins a high one-story glycerine factory, built of brick, with wood posts and beams. All communications throughout these buildings are cut off by standard fire doors, which, in case of fire, close automatically, and so confine the fire to the building wherein it originated.

Passing from a thorough description of the construction of the Kirkman plant, Mr. Pilcher, in order, explained the process of saponification, the crutching, cutting and pressing of the soap.

Mention also was made of the precaution taken to prevent fire, and the diligence used in keeping the fire fighting apparatus in the best possible shape.

In closing, the speaker showed the superiority of the present method of recovering glycerine from waste lye by means of steam, over the old proeess of distillation over the open fire.

On another page we print a letter reeeived from a prospective soap and candle manufacturer in Dutch Guiana; some of his questions pertain to matters beyond the limits of a trade paper, and any one interested is invited to write our correspondent directly.

From a pamphlet just issued by the Division of Foreign markets in the Department of Agriculture, it appears that the islands of Guam and Tutuila during the last year imported from us a number of articles which they had never bought of us before. And with great satisfaction we observe that among such articles there figures prominently the item of soap, of which, in the course of one brief year, we exported to the island of Tutuila alone quantities aggregating in value to the astonishing amount of—three dollars.

'Rah for Expansion!

An English correspondent of the "Seifenfabrikaut" states that the Association of Soap and Perfume manufacturers in England intends to open a sort of private soap and perfume making school, where practically experienced men may acquire an additional schooling in the theory and practice of their calling. The course is to consist chiefly of lectures and demonstrations on the subject of perfumery, including toilet soaps. The underlying idea, according to this correspondent, is that English manufacturers as a body desire to capture their home market more effectually than foreign competition (especially from France) has so far permitted.

The N. Y. Experiment Station Bulletin of recent date contained the following statement:

"Whale oil, or fish oil, soaps are among the best of contact insecticides if they are of good quality, since they are inexpensive, easy to use, safe and effective. In practice, however, they have been found to give varying results, some lots of the solutions made from such soaps failing to kill many of the same kind of insects that other lots of the same apparent strength, destroyed completely. The continued occurrence of such failures cast suspicion upon the soaps, and examinations at the experiment station by the exact methods of the chemist, proved that they vary to a surprising extent. The best sample contained four times as much actual soap as the poorest one, and one sample of a certain brand was only half as good a soap as another sample of the same brand from a different package. So unreliable were these soaps that the best solution of the problem appeared to be for the users to make the soap at home, if feasible, and a very few trials showed the process of making to be simple and inexpensive. The soap is made by thorough mixing of easily obtained materials, without heating. To make forty pounds of soap containing 60 per cent. of actual soap requires six pounds of caustic soda, twenty-two pounds of fish oil and one and one-half gallons of water. The soda is first dissolved in the water, and the oil then added gradually, with constant and vigorous stirring. This soap can be made at a cost of three cents a pound or less. Used at the rate of one pound to seven gallons of water, the solution will destroy plant lice, scales and other soft-bodied sucking insects without injury to foliage."

It seems odd, to say the least, that if a proper soap for the purpose is so easily made as described, soaps made by expert manufacturers should vary so excessively in two packages of the same brand!

For exportation to far off countries, and especially to tropical regions, the same correspondent says that English soap manufacturers incline more and more to put forward perfectly white soaps; they have found that colored soaps, apart from fading and staining, decomcolored soaps, apart from fading and staining, decompose more readily under varying circumstances than do white soaps.

As a strange coincidence comes the report that just a single soap-berry tree has been discovered in the Hawaiian Islands, growing at Ainahau. So reported in "The Paradise of the Pacific."

A Small Order.

Paramaribo, April 18th, 1905.

THE AMERICAN SOAP JOURNAL:

Dear Sir: I have heard of your firm and your address has been handed to me and have, therefore, lost no time in communicating with your esteemed house, thereby occasioning no delay. Will you please forward by first available opportunity a copy of your soap candle and match journal and prices to subscribe to the same, as also a complete set of illustrated catalogues with prices attached as well as discount sheet and terms of soapmaking machineries, candles, matches and fireworks, and also forward general hints on the most modern art

of soapmaking, candles, matches and fireworks, with every minute information and detail in the preparation and completion of the above industries and oblige. The manufacture of matches referred to one to be put up in boxes. Please understand, gentlemen, that I am about erecting such industries in this colony and it is therefore to your interest to supply the best and cheapest machineries you can under the circumstances, also quantities of materials used in the making of the articles referred to above.

Please to forward estimate as to the cost of a complete set of machineries for the following: matches, candles, soap and fireworks, which will assist me a great deal in making order, also furnish a list of machinery necessary as well as a general layout of a soap plant, output per day 1000 pounds soap, 1000 pounds candles, matches 10,000 small boxes per day. Please forward price list for caustic soda, tallow, cocoanut oil, indigo blue, resin, talc, washing soda, potash, beeswax, etc., etc. These materials will be purchased in quantities and you are asked to supply me with the lowest prices. In anticipation of some financial business to our mutual satisfaction, I have the honor to be,

Yours faithfully,

A. C. MARCUS.

Address: Groote dwarsstraat L. E. No. 197 B, Paramaribo, Surinam, D. G., S. A.

"Soapy" Ideals.

or

Common sense talks about the prolongation of life, the creation and preservation of Health, Vigor, Beauty, Comfort and Happiness, by means of a *rational* Skin Cultivation and Germ Eradication.

BY PROF. HUGH S. A. SAGE.

Among the many admirable things expressed by President Roosevelt before the Merchants' Club at the Auditorium in Chicago on May 10th, he said: "No business community can succeed unless it is based on high ideals, etc." The conditions prevailing in Chicago at the time will make the speeches at the various clubs, etc, memorable forever, and the Soap Trade may derive much benefit from a careful study of the principles suggested.

"THE AMERICAN SOAP JOURNAL" has published on several occasions what ideals Soap Manufacturers should follow, but it will not suffice for the *makers* alone to have high ideals, the *users* must adopt a higher standard and in order that the *public* demand a better class of soaps and be willing to pay higher prices for superior goods, we will print to-day a summary of the objects of "washing," and do this in such a manner as to induce newspapers to copy the following essay for the benefit of their readers.

Everyone interested in the soap business should see to it that the newspapers in his locality reprint this article or parts of it, or similar ideas as might be calculated to elevate the soap makers' trade. A better comprehension of the merits of good soaps, their proper use, the salutary effects, etc., are indispensable for the progress and development of our industry. Following is the essay to be reprinted in local papers:

Useful Energy; How Created and Preserved. The Improvement of Health, Comfort, Beauty and Happiness.

(By Prof. Hugh S. A. Sage.)

In these days of quacks and charlatans, of excessive, unreliable advertising, etc., there is but one way to escape imposition, i. e., the acquisition of KNOWLEGDE.

A closer investigation of every-day duties in the light of modern science *prevents waste of energies* and shows us how these are created, how life is sustained, and how seemingly unimportant actions, performed according to habit or instinct, may be so improved as to render life more profitable and enjoyable. We will illustrate this principle by taking under the microscope (of the mind's eye) the simple act of washing both of ourselves and our nearest surroundings, our clothes, etc.

dividual the higher he or she stands in the esteem of the public. Science has of late revealed to us new points of view from which we may observe *why* and *how* health and vigor are improved, beauty and comfort increased and life made enjoyable.

Intelligent people do their best only if they comprehend what they are doing. Real progress must come through the enlightenment of the masses. Especially common things, our nearest surroundings, our everyday duties should be more thoroughly understood than is generally the case.

In these days of misrepresentation (by interested parties) it is necessary to explain phenomena in such a manner that the average person may be enabled to verify the explanations by simple experiments. Every person of experience should consider it his or her duty to make public any improvements made in their occupations in such a manner as to be of benefit to the people at large.

"Knowledge is Power," is mentioned quite frequently, but common everyday happenings are seldom considered worth while to be investigated closely. How the "taking under the microscope" (of the mind's eye) the act of eating, drinking, washing, etc., may be of immense benefit to you will be illustrated below.

Did you ever stop to think how food and drink are converted into *life sustaining energies?* It is worth while to know, as those who understand things rule others. Neither strikes nor boycotts, neither capital or

labor, neither unions, syndicates nor corporations will ever conquer in the fight for supremacy unless they realize the value of the clear mind, the healthy body, of energy, endurance, etc. How to create and maintain these factors in success will be shown in this lecture.

As we want to make only such statements as have not been made before and desire to be as brief as possible, we would ask our readers to read in some up-to-date encyclopedia or similar work, the article on Osmosis, in order to better understand how life is sustained by a passing, in opposite directions, *through membranes,* of solutions of nourishment *into* our system, and of used matter *out* of it.

Through membranes, a passing *through "skin"* is what we desire to impress most deeply into our readers' minds. This action commences in the mouth, when we eat or drink we taste, which would be impossible were it not that a portion of the food or drink penetrated into the skin of the palate to reach the delicate nerve ends. The *saliva,* secreted in order to prepare the food for easier digestion and to make it glide easily into the stomach, illustrates a passing of fluids through the linings of the mouth and throat. If it is said the "glands" do the secreting and not the "membranes," that fact simply proves the *skin* (both inside and outside linings of our bodies) to be more than the simple covering it is usually thought to be.

It serves our purpose best to take the stomach as a whole, as the skinny bag it shows itself to be, to superficial observers, and to leave its detailed construction for some other essay. In the stomach the gastric juices are secreted and the emulsions of nourishing elements are absorbed to be carried into the blood vessels, through the skinny walls of which the particles pass, when they arrive at such portions of our bodies where they are needed.

The waste products are by the same means carried into the lungs, where they are "burned," that is, in the linings of the lungs the same action takes place, the oxygen of the air passes *in* and the carbonic acid, together with moisture and other waste matters are *expelled,* again *through* the *skin* of the lungs.

This "Osmosis" or "double filtration" goes on in the same manner in other organs of the body. If we remember how easily a *simple* filter becomes clogged by use and must either be cleaned or renewed, we must admire the provisions made by kind nature, by which the various filtering surfaces of our bodies are kept in working order, without any aid from the human mind.

Thus the lungs clean themselves by secreting phlegm which is usually ejected without much effort. It is the same with other membranes. If, however, there is too much work thrown on the delicate membranes or if our energies are consumed elsewhere, dire consequences follow: catarrh of the lungs or stomach put in their appearance. In such cases, *the human mind,* clear, logical reasoning, and subsequent rational actions can prevent serious results.

"Assist Nature" is the maxim of the best physicians. *"Remove the cause and do no harm"* the motto of others, and we propose to show you how this should be done. What many regard as a disease is in reality only an effort of Nature to *"remove the cause"*—the phlegm or mucous which is secreted in the depths of the skin, in the linings of the throat, etc., envelops, lifts up, the germs and microbes which have been inhaled and are trying to penetrate into our systems. If we succeed in coughing up and ejecting these minute enemies, there is no danger of infection, but the constructing, upbuilding forces within us are not always stronger than the attacking, destroying, minute foes which are constantly trying to get the best of us, to exist and multiply at our expense.

Nowadays, when progressive civilization demands all our energies, it is of the utmost importance to learn how to get rid of those myriads of parasites which have chosen the human skin as their battle ground to fight for their existence. What is usually called by the simple and common name of "dirt" which is treated so negligently and superficially, deserves in reality our most careful attention, because to it may be traced the cause of many failures in life, much sickness, even death, not to speak of marred beauty and much discomfort, all are due to impaired skin action.

Instinct has shown people how skin treatments may benefit the entire system. For thousands of years, baths in many forms have been used, poultices, liniments, salves, cosmetics, etc., of many kinds are employed, but because a clear comprehension of their action has been wanting, these applications often do more harm than good.

Soaps made with a clear comprehension of what is needed, come nearest to Nature's own efforts to put the skin in good shape, but really good soaps are scarce and they are often wrongly used. Progressive dentists have advanced furthest in "rational skin culture," (as far as the mouth is concerned). They teach us extremely valuable lessons when they tell us to stimulate skin action in the mouth by massaging the gums vigorously with a good tooth-brush and a properly prepared tooth paste. When this is done thoroughly, we have the most valuable object lesson imaginable. Portions of the nose and throat which are not at all touched by the tooth-brush, respond to the sympathetic influence of the treatment.

Not only the brushed gums and teeth will be freed from the microorganisms, but the neighboring membranes will follow the example set by the parts treated and free themselves from the undesirable and unobjectionable, as everyone can easily observe. While brush-

ing the gums and teeth one must cough up and expectorate much more frequently than otherwise. *This object lesson furnishes the key to successful skin treatment, to health and vigor improvement.*

Because quacks use the terms "germs, microbes," etc., quite frequently, we dislike to do the same thing, and shall (although it is a well known fact that in everybody's skin there are myriads of living micro-organisms), call these accumulations by their proper name "dirt."

Let us examine the accumulations of your nearest and closest surroundings, the skin. If we want to remove therefrom everything which does not belong on a healthy skin, we ought to know the nature of what is to be removed, otherwise we cannot hope for success. In fact, it is due to the complicated nature of the minute things to be removed, that none of the preparations above mentioned, or those in common use have any chance to succeed in putting the skin in a really, thoroughly clean, healthy condition.

Besides the things already mentioned, there is on every human skin a deposit of secretions. The perspiration differs in different persons; in some it is acid or sour, while in others it is alkaline, or greasy or oily, or salty, in addition there is dust, which comprises "a little of everything," the combination forms the ground upon which grows what appears, if viewed under a powerful microscope, just as diversified as does the animal and vegetable world which covers the surface of the earth. In reality, there is no better example for a rational skin culture than is the cultivation of the surface of the earth: agri- horti- or floriculture.

As no strip of land freshly plowed will remain free from weeds for any length of time, so will the human skin be covered with energy consuming, minute growths unless it is properly cultivated. As deeply rooted weeds cannot be eradicated by ordinary means, as the forest cannot be transformed into a wheatfield or garden lands by the same means or tools as the prairies; as the raising of garden truck or flowers demand other methods than the planting of corn, in short, just as different as are the ways to make uncultivated land produce useful crops, just so differ the ways and means to obtain best results in individual skin treatment.

It is sufficient for general purposes if we succeed in showing that the selection and use of toilet preparations requires careful thought and the advice of experienced, reputable dealers. The honest ones of the latter, those who know, will tell you that ninety-nine out of every hundreds persons do not use soap properly, do not know how to wash. *Rational* washing (ascaging it is called because it is a new kind of massage with improved soaps as lubricants), means to use soap as it should be used—with very little water at first, just enough to make an emulsion which is to be massaged into the skin, *then* water is added gradually under constant kneading and rubbing which liberates the enveloping and uplifting powers of good soaps.

Do not imagine that we intend to recommend complicated methods. Rational skin culture is as natural and simple as is the occupation of the farmer and gardner for which work, as has been said, "No one is too high and none too low." Comprehending and executing the simple principle just outlined, will enable anyone to improve very decidedly upon oldfashioned methods of beautifying the skin.

As the gardener, whose knowledge and skill enables him to raise valuable flowers and plants, can get very much better results from a *small* piece of *well cultivated* land, than does the superficial, ignorant farmer who does not realize the value of knowledge, so can the person who acquires more information and greater skill, better practice, in regard to rational Skin Culture, transform into useful energies, into satisfactory life functions, the time and care spent in putting the skin into a healthy condition.

The lectures delivered by representatives of the United k,ilpb h-scqn,dmethod5p shrdlu cmfw ypvgqkbj shrdt States in the Government Building of the St. Louis Fair, concerning radium activity, serve admirably to illustrate the action of improved soaps. Those who listened to these lectures will remember that even the smallest particles of radium throw off infinitesimally small portions in all directions, these portions act as minute hammers, their impact setting surrounding bodies in vibration.

Really good soap possesses the same property, which fact can be easily proven by the following experiment: fill a vessel with pure water, when quiet, shake over it an old dusty rag, or anything on which there is the average house dirt (which invariably contains living micro-organisms). As soon as a bit of improved soap is held into this water, or a drop of *concentrated* soap emulsion is put into the water, you will notice a scattering, a repulsion of particles, everything seems to flee from the place where the soap touches the water. This "radiation" is due to a decomposition of the soap which takes place as soon as *sufficient* water is mixed with soap (usually about six to twelve times the bulk of pure well made soap). The amount varies according to the different kinds of soaps (the different oils, combined with various alkalies, soda, potash, etc., by different processes, yield a variety of soaps which differ in their actions).

Such decomposition of soaps is very much like the action of Sedlitz powder when water is added. The force which drives the ball out of a gun barrel, or raises the dough in bread making, is also present in well made

soap, but it can do its work of lifting up and out the dirt, only if *put under the latter before sufficient water is added to start the action.*

If we bear in mind these combined actions, the lifting up power and the "hammering "forces (as a machinist loosens a rusty screw or the cooper starts a bung by hammering on the barrels) we can understand the heretofore unexplained actions of properly prepared soaps. After we have "removed the cause" of skin affection and sluggish skin action (the principal cause of ill-health) without doing any damage, we may, in some cases apply to tender skin some bland oil or similar temporary protecting coverings.

There is a very promising field for intelligent persons to supply the needful for Rational American Skin Cultivation and Germ Eradication. It would form an exceedingly interesting, useful and remunerative occupation to demonstrate to the public and to sell improved preparations made in accordance to the new principles here outlined and to call attention to the great damage done by the use of such toilet preparations as are either ineffective or act by poisoning the germs and microbes present in everybody's skin. This latter procedure is like poisoning rats and mice and leaving them in their holes. The decomposing bodies of the dead and the secretions of the living micro-organisms act like poison on the human system, nothing but *complete removal* will answer and this is only possible by the methods above described, whereby the minute pests (usually called dirt) are loosened, detached, enveloped and lifted up and out of the depths of the skin, from the surface of which they are rinsed while contained in the meshes of a soapy net, that is, in *lather* made *on* the skin with *properly prepared* soap. When the skin of a person exhales bad odors, it is a warning given by nature to attend to the skin in a more rational manner than heretofore. Do not purchase soap simply because *claims* are made for it everywhere, or because it smells nice, has a high-sounding name and is dressed up stylishly. Dudes seldom do good work. Avoid quick lathering soaps, their frothy lather prevents the solution from penetrating. Be guided by reputable dealers. Never lose sight of the teachings of Nature, she is the most reliable guide. Soaps which form a mucous-like solution at first, which develops into a creamy lather while being massaged, are best.

Another proof that improved soaps and not other preparations are best for disinfecting and purifying purposes, is furnished us by the *bile* secreted by the liver. This is a soapy preparation which does similar work within us as improved soaps are intended to do externally. Bile, as well as soaps, while dissolving and purifying, is also a strong disinfectant, both destroy *objectionable* germs only without doing any damage to upbuilding cells, both are "Soaps that Think."

Quite lately solutions of carefully made soaps are used as cures for cancers, solutions of same are introduced into the swellings with good results, it is claimed —but such investigations belong to the doctor and not to the general public. The average person who uses improved soaps to neutralize acid secretions, to remove external "dirt" properly, will not be compelled to use nearly as much medicine as those who persist in their old ways.

"And is this all you are going to tell us," some may ask. Those, however, will appreciate the value of this chat who will reflect how much energy is wasted daily by those trying to clean themselves, their clothes, and their surroundings, by following their instincts rather than by training their hands to work in harmony with educated minds, (their own as well as others who have concentrated their minds on the problems under discussion). It serves many a good purpose to bear in mind what that great German poet Schiller says:

"Our deepest thought we need in casting,
Reflection will great aid supply,
To toil is time and labor wasting,
Unless the mind its might apply.
The reason that our nature graces
There kindred with the skies we claim,
Free in itself the mind it traces,
Whatever the hand shall fitly frame.
And well it stamps our human race,
And hence the gift to understand,
That man within the heart should trace
Whatever he fashions with his hand."

No one will think lightly of the subject under consideration who reflects how mankind has developed since it was observed how greatly the yield of the earth has increased since *its skin* has been cultivated. Before agriculture had been developed only savages could exist. *Civilization is equivalent to the production of more useful energies out of the same material.* The metals and precious stones existed long before they were made useful through the arts and sciences, so does much more energy rest within us if we use common sense to liberate it. The best food may pass our stomach and intestines if their linings are not in proper working order to assimilate it. These linings can be stimulated by treating our external skin as outlined.

It is said that the forefathers of the human race were more like apes than human beings. We all know the cleaner, clearer and whiter the skin, the more civilized its possessors. Can anyone doubt the close relationship of the state of the skin to the culture of the person whom it envelops?

It is a fact that some breeders of high class animals, of race horses, etc., pay more attention to the *natural* proper grooming of the horse than to their own skin

If our readers desire more details in this respect, you may write to the editor of this paper and a second essay will explain more fully the points about which you desire information.

Just a few more pointers in conclusion: As no farmer or gardener would destroy weeds by saturating his land with corrosive solutions (because these would destroy the fertility of the soil) so should you be very careful and *not use anything which does not know the limits beyond which it should not penetrate.*

Improved Soaps (the thinking kind) know exactly how deep to go in order to avoid injury to the delicate, life-sustaining, tissue-building cells which are separated from the dangerous, life-destroying micro-organisms by a very thin, delicate membrane which should be stimulated and strengthened and not weakened or benumbed by the application of poisons in solution or even alcoholic preparations. Even the ordinary soap has the advantage over the latter nostrums inasmuch as *it warns* when it reaches the dividing line, a smarting sensation tells you that it has penetrated to parts from which it ought to be removed (by bathing in clear water).

Let us quote the up-to-date dentist once more. If he wants to *kill* an aching nerve in a hollow tooth, he applies the oil of cloves, cassia, etc. Avoid using soaps perfumed with these (as is often the case) they injure the nerves in the skin and cause sallow complexion and other undesirable consequences That is another reason why you should deal with reputable *experienced* suppliers of toilet preparations.

Pleasant smells should be enjoyed as nature dictates *by effusion in the air, not* by putting them on the skin. *"Mankind is the product of environment."* that is why he ought to pay most careful attention to his nearest surroundings, his skin, his clothes, his home. He who has read above *carefully* will know how to make himself and his surroundings *really clean*, that is to get rid of the *living* "dirt," which is so detrimental to health and happiness.

Results to be obtained are certainly worth a most careful reflection. The superficial ones rarely attain permanent success in life.

How Soap Is Sold.

Means adopted for enhancing the sale of soap, on the part of *manufacturers,* have been repeatedly described in this paper under the above heading. This month we will vary our program to the extent of copying an account from the Charleston, S. C., Post, of "How soap is sold" by a man who is neither a legitimate manufacturer nor a legitimate salesman. The report says:

It is said that cheap soap can be picked up on the shores of James Island at any time of day, for a slick swindler did the good people of that shire a few days ago, and unloaded fifteen or twenty boxes of funny soap at $8 per into the households of unsuspecting islanders. It is worth a man's life to even whisper soap across the river just now, and will be for some time to come.

A James Island citizen more daring than his fellows has let the cat out of the bag, and tells of the joke on himself and others without a falter.

Some few days ago there appeared on James Island an individual who was a hustler, pure and simple, and could sell an ostrich false teeth if necessary. He hailed from Connecticut, and registered on the shores of the island under a name with four sides. The agent began work soon after he landed, which was selling soap and ordering premiums for enriching his patrons. His offer was very tempting and very plausible. It took on purchasers two at a time. The man sold his soap in boxes packed with a hundred cakes, for the modest price of $8 a box, with a premium.

The premium sold the soap all right. "Slick" promised to give the purchaser the choice of forty yards of Brussels carpet, an antique oak chamber set, a set of china dishes of one hundred and fifty pieces, or a half interest in an ostrich farm in Labrador. Strange to say there arose on James Island in a day or two after "Premium" struck that territory an unprecedented demand for soap. The soap distributor lived like a king, and only had to walk around with his premium lists sticking out of his pockets to get a customer.

All went well for a time, but suspicion began to take form in the minds of the innocents who had tried to use the soap, but deserted the effort, and consigned the article to Sambo to grease axles with, and for the purposes of stopping up rat holes. Somehow or other, after mature deliberation, it was concluded by one or two wise ones that perhaps the premiums would never follow the soap, and the man with the soap became an object of suspicion. He no longer could sell soap at $8 a box, it was declared, without delivering the ostrich farms along with his saponaceous purifier put up in cakes. Even such an expression as "to the booboo with him" was not regarded as too strong a remark with which to ejaculate over the situation.

The agent stood by his guns, and ordered more soap, for he believed with the late P. T. Barnum that the American people in general and those on James Island in particular, liked to be humbugged. Reports came in that he was a fake, and that his premiums were worse. Soon the soap distributor had to stop sticking his number tens up on the porch railing for fear that somebody would throw a bar of his soap at his brogans and poison him.

One good householder constituted herself into a committee of one and went to warn a friend not to buy any

soap from their hypnotic friend, as he looked crooked. The soap seller called upon the foreramed friend, and sold her box, with a premium to follow a rabbit's egg for Tommy. He then went back to the householder who was stirring up war against him and sold her a seeond box, promising another antique chamber set as soon as the first one reached her. Some deelared that he could sell himself a box of soap, and there was a movement to buy him out and deport him to Charleston, but it was nipped in the bud by the reeeption of a circular that told on the slick visitor and gave a character sketch that would have blaekened Iago.

He visited Charleston and was arrested by Magistrate Levy late on a Saturday night to be held for trial upon a complaint from James Island. It was diseovered that the case was not in the magistrate's jurisdietion, and so the prisoner, after putting up a bond of $200, advanced by a friend, took to the wilds of his native state. He did not return the money netted from his eight dollar soap, and no report of the arrival of those premiums has yet been made public.

An Advertising Parable.

There was once upon a time a man who had several dollars and he wanted several more, so he went to a friend who had more dollars than he and inquired how he might obtain this increase. The friend advised him to "do as he did—save." So the man went back and hid his dollars away like the man in the Biblieal parable But one day he got to thinking about the dollars again and so sought their hiding-place to reekon up his gain. But, alas, there was but the same number that he had put there.

Then he went to another friend, a man who had fewer dollars, and asked him the same question. This man advised him to send out a dollar in search of more. So the man returned and sent one of his dollars forth. It was with a great deal of reluetance that he let this one of his store go from out of his hands, and the parting was with tears and weeping.

After many days the dollar came not baek, so the man went to see his friend again. "Send another dollar in search of that one," was the advice of his friend.

So another dollar went forth—another sad farewell was made.

After several evening whistles had blown and the seeond dollar eame not baek, the much-worried man went to see his advising friends. As a consequenee, a third dollar started out to hunt for the two that were lost. Then the man sat down and thought to himself: "Now, if I lose one dollar by sending it out alone, how ean I not expect to lose every dollar that I thus send out singly to find this lost one? I will make one more effort. I will send all my other dollars out together in seareh of those that are lost and to gather in any that some other foolish fellow has lost."

And he did so. But there was no tear-shedding with this last going forth. "They will all eome back, said the man to himself, for he believed more in himself than he did in the advice of his friends.

After not so very many morning rides down to work on the elevated, the man found on his desk one hundred and thirteen letters, and in his morning's mail were not only his lost dollars, but quite a few that he had not lost

Moral: If you want your dollars to bring you in more dollars, remember that misery is not the only thing that likes company.—Woman's Herald.

Bulk Perfume Trade.

Rochester, May 17, 1905.

Editor Pharmaceutieal Era:

The remarks of Mr. Green, published in your esteemed journal (Feb. 9, Era, page 165), have, in a measure, attracted attention. Being somewhat eonversant upon the subject, it is hoped that you will see fit to present your readers a few facts and figures herewith, whieh ean be easily verified. His assertion that "more bulk goods than ever are sold to-day" is not denied, but is he not in error in saying the American perfumers do not profit thereby? The following figures are tabulated from the records:

Total amount of imports of perfumery, toilet preparations, etc., for the fiscal year ending June 30, 1903, $824,040; for the year ending June 30, 1904, $844,621.

Total imports of strictly alcoholic perfumes for 1903, $510,642; for 1904, $508,536; decrease for 1904 over 1903, $2,106; inerease for 1903 over 1902, $68,474 (or 15 per cent. or over). The statistics for 1904 show a total increase of $20,581 (2½ per cent.).

Thus it would appear with the shown inerease of only $20,851 in actual values of merchandise, instead of an increase of $119,000 in "duties," as stated by Mr. Green that he must have been beguiled into the land of unattested figures.

Regarding the age of fine Ameriean perfumes, I believe that this particular feature receives far better attention than is given by foreign manufacturers, else Ameriean perfumers would be wofully slow indeed.

The gentleman further remarks that many druggists are making their own perfumes, by what he terms a simple proeess, viz.: "Coneentrated floral oils." It is feared he has not pursued the subjeet far enough to become convinced that wherever that experiment has been tried, a re-order is unknown and loss of trade is inevitable. If the profession of *parfumeur* had nothing more to it than that, this or any other eommunication upon the subjeet would be entirely superfluous. And again don't you smile, Mr. Editor, when, aecording to Mr

Green, the American perfumer has not "advanced." If this be true, it is the only one thing in which the American has not advanced, and the writer hereof, representing the third generation of odor-makers from the Maritime Alps, with due reverence to ancestry, insists that "advance" is the war cry upon its banners as a constantly increasing trade verifies, yet "advance" is still the slogan. Thus again we presume to give denial to that "non-progressive idea," we live and still strive in the expectation of outdoing the past. And still again, isn't there an unwarranted injustice done by saying that the up-to-date American perfumers merely issue old odors under new names? This calls for actual proof—else it is slanderous. Mr. Green states producers pay "too much attention to special odors." I would request knowledge as to what class of odors the French, to whom he so often refers, devote their attention, to say nothing of high prices. American goods do not simply carry the price on account of the pace set by French competitors. To make a perfect perfume it is necessary to use goods of no small value.

The writer has a personal acquaintance with Mr Green, who is esteemed highly, and it is a pleasure to reply to his communication, for, during March, 1901 I had a very pleasant conversation with him relative to perfumes. Modesty alone prevents repeating assertions made relative to at least one American perfumer. French goods are not the best, and French perfumers do not excel American perfumers. This can be practically demonstrated beyong the doubts of Mr. Green. He says truly, if the department stores control the sale of perfumes it is only because of their display and push, but I cannot see how Mr. Green can encourage a druggist to make his own perfumes. It is a case of "Shoemaker stick to your last." A pharmacist can compound drugs but when he tries to make his own perfumes I will guarantee that within one year his sales will show a decided decrease in this department. When department stores make their own perfumes they do not employ a druggist nor employ the use of "Concentrated Floral Oils," but they engage an educated perfumer and the perfumer is one of a profession of its own kind.

I wish to correct another statement, which is somewhat misleading, relative to the French perfumes being sold without advertising. Mr. Green must know that at least one large French house spends a fortune advertising yearly. Moreover, every department store in the United States handling imported perfumes, advertise them incessantly in the local newspapers. Mr. Green furthermore knows that there are but three or four houses in the United States who manufacture strictly high grade perfumes, and he further knows that it is the policy of these manufacturers to sell to no other trade than the retail druggists. Were these manufacturers to sell department stores the imports of perfumery would naturally show a marked decrease. The trouble with the retail druggist who does not do a profitable business in perfumes, is simply due to the fact that he does not devote sufficient attention to his perfume trade which can be made one of the best-paying departments in his store. Too many druggists take it for granted that the big department stores are taking the business in this particular line. Inasmuch as these same stores retail patent medicines and compound prescriptions, there is no better argument to employ than that if you present a nice display of perfumes and use discretion in the choice of odors, etc., profitable results are sure to follow. I can refer you to many druggists friendly with the writer, who are successfully following suggestions on these lines. The perfume and toilet article trade belongs to the retail druggist and it will remain with him if he will devote the required attention to this feature.

In conclusion, permit me to state that it is the "American perfumer" who has reproduced the natural odor of the flower, but the French perfumes embrace no science or art, merely a conglomeration of heavy odors which become obnoxious to the average person. An artist, in painting a picture, imitates the colorings of nature as closely as possible; the American perfumer, in making an odor, reproduces the natural scent of the flower as given by nature as a criterion.

Very truly yours,

OSCAR B. SPIEHLER.

Home Tests For Toilet Soaps.

Our contemporary "Science Siftings" must have sprung a leak in its "sieve" through which things not scientific are escaping. For all that, the following excerpt from its pages is worth reading:

Speaking in a broad way, the soap of the present day is made by what is known as the "cold process;" that is, with very little boiling, with the use of a great quantity of free alkali, says Science Siftings, that is mixed with the smallest amount of fat used by chemical means. Nearly all of the cheap toilet soaps are so manufactured, with a heavy perfume and gaudy wrapper depended upon to find customers for them, which they do in constantly increasing numbers. Red and roughened hands and faces never fail to ensue from the employment of such cleaning compounds. That they do clean, and clean thoroughly, cannot be denied. The large amount of free alkali in the soap dissolves the dirt by a chemical action and cleanses the skin effectually. If the hands or face have become exceptionally soiled, therefore, an alkali soap is the only thing that will successfully combat and loosen the accretions of dust, dirt or grime.

The best of the modern soaps for all ordinary toilet purposes are those of what is understood as the "fatty"

variety. Less alkali is employed in their manufacture. With this exception, the preliminary steps in their compounding are somewhat similar to those of the cheaper grades. As the mixture begins to solidify, however, a quantity of fat is injected into it by a special process. The added amount of fat lessens the harmful effects of the small quantity of alakli, and such soaps as these may be used freely on all parts of the body without injury to the skin resulting. Their cleansing action is soft and easy, and no perceptible chemical process occurs in the removal of the dirt on the surface. Instead of this, the soap forms an emulsion with the dust and grime, and cleanses in this fashion, more slowly than in the case of the alkali compound, with its chemical changes under the influence of water; but though more gradual in doing this, it is none the less a good cleaner, except in instances where a great amount of dirt has literally been ground into the skin through work, exercising, or from other causes.

To determine whether a soap is good for toilet purposes is not at all difficult. The amount of suds made by a soap is one of the methods by which the presence of too much alkali is indicated. The more suds a soap makes in a comparatively short time the more alkali it contains. A cheap soap will create a large quantity of suds without any trouble on the part of the operator whatever, whereas a "fatty" soap has to be rubbed frequently before it manifests a disposition to make even a little suds. The suds are caused by a chemical action in the water when the alkali mixes with it, and as has been stated before, the fatty soap forms an emulsion and does not undergo much chemical change.

Another way to determine the presence of alkali is to touch the piece of soap to the tongue. If there is much alkali in it the taste will be bitter, if there is no alkali there in harmful quantities, no acrid and bitter taste will be observed. Still another way, the most effective of these, is to drop a little sublimate of mercury on the piece of soap. The mercury will at once cause the alkali to assume a yellowish hue, and the more alkali in the soap the deeper this yellow color will be. The first two methods will suffice, however, in the household, especially as the sublimate of mercury is a very virulent poison.

Throw Away Your Tooth-Brushes.

Where is this bacteriology business going to stop anyway? An eminent scientist has now condemned the tooth-brush as an unhygienic, hurtful and even dangerous article. It is full af bacilli. The learned doctor says the best a tooth-brush ever gets is a little rinsing with warm or cold water—sometimes not even that. Naturally the family tooth-brush is the most dangerous if we except the sleeping-car, excursion boat, or boarding school implement: the large variety of bacilli together with their increased vigorousness which results from cross-breeding of different strains being responsible for the pre-eminence of the latter kinds.

And what about all the antiseptic toothpowders, the use of which we are told by the enterprising makers is followed by the dying shrieks of bacteria audible two blocks away? Why it appears that they are not strong enough to do any perceptible damage and what folks have thought were the agonizing groans of expiring germs were really shouts of delighted appreciation.

Again, the tooth-brush has been pronounced one of the distinguishing marks of civilization by no less a personage than Washington—Booker, it is true—who says when he finds that a member of his race uses the tooth-brush he feels there is hope of his becoming a useful-cleanly, and industrious member of society. If the tooth-brush is marked for disapproval and final extinction how is Mr. Washington going to tell? The anti-tooth-brush scientist says a little absorbent cotton should be used instead of the brush for it is sterile and can be destroyed immediately after use. This, however would not serve for Mr. Washington's civilization test for—unfortunately, in this case—absorbent cotton has other uses, some of which are doubtless known to persons who have not yet attained the tooth-brush stage of culture.

Vain indeed is our attempt to lead the sterilized life. For after all we do in the way of sterilizing the milk we drink, the water we bathe in, the brushes we use on our hair—those of us who have hair—after all our pride in our antiseptic toothwashes, powders and pastes we find it is of no avail and that we have been rearing choice and hardy specimens of bacteria on our very tooth-brushes! What's the use? Therefore we give up: for to paraphrase the words of the poet—

We see bacilli on the ceiling and bacilli on the flure,
Bacilli on the tate-y-tate—bacilli on the dure,
Bacilli in the sugar bowl, bacilli on the chair,
Bacilli in our phwiskers an' bacilli ivryphwhere.
Bacilli in the water pail, bacilli in the sink,
Bacilli in the things we eat and iverything we dhrink;
Bacilli in the pillysham, bacilli in the bed,
And sometimes Oi think there's nothing but bacilli in me head.
There's bacilli on the dure mat and bacilli in the hall,
Bacilli on the kitchen stove and bacilli on the wall.
Bacilli in me poonkin poy and on the windy-pane,
An' all becos' the doctors has bacilli on the brain.

—The New Idea.

Increased capital: The Hygienic Soap Granulator Company, Jersey City; capital increased from $125,000 to $500,000.

Produce Exchange Cottonseed Products Rules.

Following are the chief rules regulating transactions in cottonseed products among members of the New York Produce Exchange, as adopted last month:

COMMITTEE.

Rule 1.—Sec. 1.—At the meeting of the Board of Managers after their election the President shall (subject to the approval of the Board) appoint as a Committee on Cottonseed Products five members of the New York Produce Exchange, who are known as members of the trade in cottonseed products. It shall be the duty of this committee to properly discharge the obligations imposed upon them by these rules, and also to consider and decide all disputes arising between members dealing in cottonseed products which may be submitted to them. A majority of the members shall constitute a quorum, but the committee may fill temporary vacancies if requested by either of the disputants, and the decision of a majority of those present at a hearing of a case shall be final. They shall keep a record of their proceedings, and a fee of $15.00 shall be paid to the committee for each reference case heard by them, to be paid by the party adjudged to be at fault, unless otherwise ordered by the committee. Provided, however, that nothing herein shall prevent settlement of questions of difference by private arbitration, or as provided for in the By-Laws.

OIL ARBITRATION.

Sec. II.—Whenever a case is submitted to the committee involving a tender of more than one hundred (100) barrels, of different shipping marks, the committee shall test and give its award on each shipping mark separately, unless both parties to the matter in dispute consent to have the different shipping marks treated in one lot. The committee shall charge one fee for each lot submitted irrespective of the number of shipping marks involved, provided, however, that if the committee is required to pass upon each mark separately, no lot shall consist of more than five shipping marks.

INSPECTORS AND TESTERS.

Rule 2.—Sec. I.—Inspectors and testers of cottonseed products must be licensed by the Board of Managers, and must obligate themselves not to buy or sell on their own account any article they are licensed to inspect or test, such license to be granted only upon written application, endorsed by not less than five members of the Exchange, who shall be regular manufacturers of or dealers in cotton seed products. All licenses shall expire annually or at such time as the Board of Managers may designate, and the Board may revoke such license any time for cause.

WEIGHERS.

Sec. II.—Weighers of cotton seed products must be licensed by the Board of Managers of the New York Produce Exchange, and must obligate themselves not to buy or sell on their own account any articles they are licensed to weigh; such license granted only upon written application, endorsed by not less than five members of the Exchange, who shall be regular manufacturers of or dealers in cotton seed products. All licenses shall expire annually, or at any such time as the Board of Managers shall designate, and the Board may revoke such licenses at any time for cause.

Sec. III.—Inspectors, testers and weighers of oil shall be responsible for the correctness of the certificates which they issue.

FEES FOR INSPECTORS AND TESTERS.

Rule 3.—Sec. I.—When oil or soapstock is sampled by order of the committee, as prescribed for in Rule 19, Sec. I, a fee of $2.00 shall be paid to the inspector by the party adjudged in fault for the first 100 barrels sampled, and 50 cents for every and each 100 barrels or fraction thereof in addition thereto.

Sec. II.—Oil and Soapstock in Tank Cars.—When oil or soapstock in tank cars is sampled by order of the committee, a fee of $2 for each tank car shall be paid to the inspector by the party adjudged in fault.

Sec. III.—Fee for Winter Oil Tests.—A fee of $2.00 for each Winter test shall be paid to the inspector or tester by the party or parties designated by the committee.

Sec. IV.—Fee for Crude Oil Tests.—A fee of $3.00 for each test of crude oil shall be paid by the party or parties designated by the committee.

BARRELS.

Rule 4.—Sec. I.—Oil packages must be good hardwood iron-bound barrels, new or thoroughly cleaned refined oil barrels, painted or varnished. On delivery of merchantable packages other than the above, an allowance not exceeding 50 cents per barrel shall be made by the seller.

Barrels must be delivered in good shipping order and shall not be under 48 or over 58 gallons each in case of delivery.

TARES OF BARRELS.

Sec. II.—Tares shall be tested, if required by either buyer or seller, by emptying four barrels of each 100 barrels to be taken indiscriminately from the lot. Allowance shall be made for difference in tares in excess of one pound per barrel. The weighers are required to put a distinguishing mark on the barrels stripped, such mark to be shown on the weight certificate.

DELIVERY OF BARRELS.

Rule 5.—Deliveries of cotton seed oil shall be made by weight at the rate of seven and one-half (7½) pounds net to the gallon.

Rule 6.—Unless otherwise specified, all sales of cotton seed products are understood to be f. o. b. Seller cannot be required to deliver less than 100 barrels to any one place, to any vessel, or any wharf or pier designated by the buyer. The vessel, wharf or pier so designated must be accessible and within lighterage limits of the port of New York. It is understood that the seller has fulfilled his contract after he puts the goods within reach of the ship's tackle or lands them on the pier, if required and allowed to do so. The goods shall be delivered free alongside before the expiration of the contract time for delivery.

Rule 7.—All cotton seed products must be paid for in cash upon delivery of the goods. The production of a clean receipt from steamship, warehouse, etc., shall be sufficient evidence of delivery.

TANK CARS.

Rule 8.—Sec. I.—A tank car of cotton seed oil shall be considered at not less than 125 barrels nor more than 160 barrels. Seller must fill cars to capacity. Any difference in weight, either in excess or shortage on tank cars, shall be settled at the market price in the day of shipment. The date of Bill of Lading to determine time of shipment.

Sec. II.—A tank car of cotton seed oil for settlement purposes only shall be 140 barrels, where no delivery is made. A barrel of oil if sold loose is 50 gallons. A gallon of oil is 7½ pounds avoirdupois.

TENDERS.

Rule 9.—Sec. I.—All tenders of cotton seed products other than crude and winter oils, shall me made between the hours of 10 A. M. and 3 P. M., and unless rejected before 4 P. M. of the day following shall constitute a good delivery.

Sec. II.—All tenders of crude and winter cotton seed oils shall be made between the hours of 10 A. M. and 3 P. M., and unless rejected before 4 P. M. of the 2d day following shall constitute a good delivery.

Sec. III.—All tenders of cotton seed products of a quality superior to that sold shall be deemed a good delivery.

Sec. IV.—If at the expiration of time allowed buyer for sampling and otherwise testing the goods, as provided for in these rules, the seller demands and the buyer fails to furnish necessary shipping instructions, the seller may proceed to weigh the goods and the buyer must furnish shipping instructions within twenty-four hours or take delivery of the goods at the point where they were lying when the tender was made, with free lighterage, all risks to be on buyer.

Classification and Grading of Cottonseed Oil.

CRUDE OIL.

Rule 10.—Sec. I.—Prime Crude.—Crude cotton seed oil to pass as prime must be made from sound decorticated seed, must be sweet in flavor and odor, free from water and settlings, and must produce prime summer yellow grade with the use of caustic soda by the best refining methods, with a loss in weight not exceeding 9 per cent. Provided, any oil that refines with a greater loss than 9 per cent., but still makes prime summer yellow grade shall not be rejected, but shall be reduced in price by a corresponding per cent. of the contract price of the oil. Otherwise it can be rejected outright.

Sec. II.—Choice Crude.—Choice crude oil must be made from sound decorticated seed, must be sweet in flavor and odor, free from water and settlings, and shall produce, when properly refined, choice summer yellow oil at a loss in weight not exceeding 6 per cent., for Texas oil and 7 per cent. for oil from other parts of the country.

Sec. III.—Off Crude.—Oil neither choice nor prime shall be called off oil. When oil is sold on sample any oil tendered shall be equal to sample, but if it should refine at a loss exceeding the loss of the sample by not over 2 per cent., but otherwise equal, it is still a good tender at a reduced price in proportion to the excess loss.

The buyer shall have the right to reject the oil outright if it tests beyond 2 per cent. refining loss as compared with the sale sample.

REFINED OIL.

Rule 2.—Sec. I.—Prime Summer Yellow.—Summer Yellow Cotton Seed Oil, to pass as prime, must be brilliant, free from water and settlings, sweet in flavor and odor, of straw color, not reddish.

Sec. II.—Prime Winter Yellow.—Winter Yellow Cotton Seed Oil, to pass as prime, must be brilliant, free from water and settlings, sweet in flavor and odor, of straw color (not reddish) and must stand limpid at a temperature of 32 degrees Fahrenheit for five hours.

Sec. III.—Prime Winter White.—Winter White Cotton Seed Oil, to pass as prime, must be straw white to white in color, brilliant, sweet in flavor and odor, and must stand limpid at a temperature of 32 degrees Fahrenheit for five hours.

Sec. IV.—Tests for Winter Cotton Seed Oil.—Tests for Winter Cotton Seed Oil shall be made as follows: A regular 4 oz. sample bottle shall be filled full of the oil to be tested, a thermometer shall be inserted through the cork of the bottle, and hermetically sealed. The oil

shall then be heated slowly to a temperature not exceeding 80 degrees Fahrenheit, and remain at that temperature not exceeding fifteen minutes. It shall then be chilled until it stands at 32 degrees Fahrenheit, at which point it must stand for five hours, and must be clear, brilliant and limpid at the expiration of that time.

Sec. V.—Prime Summer White Cotton Seed Oil.—Summer White Cotton Seed Oil, to pass as prime, must be straw white to white in color, brilliant, and sweet in flavor and odor.

Sec. VI.—Off Refined Yellow Oils.—Refined Yellow Oil, designated as Off, may be of inferior flavor, and of a color not exceeding orange, or "reddish," but not "red."

Sec. VII.—Refined Yellow Oils, designated as Good Off, may be off in flavor, but must be prime in color.

SOAP STOCK.

Rule 12.—Soap Stock.—To be a product of Crude Cotton Seed Oil and all sales thereof, unless otherwise agreed upon by buyer and seller, are made upon a basis of 50 per cent. fatty acid, not to fall below 40 per cent. If containing less than 40 per cent. fatty acid, soap stock shall not be considered merchantable. Delivery to be made in iron-bound packages or tank cars.

A contract tank car of soapstock shall be 50,000 pounds unless otherwise specified.

COTTON SEED.

Rule 16.—Sec. I.—Cotton seed shall be divided into two classes: prime seed and off seed.

Sec. II.—Prime Seed.—Shall be clean, dry, sound seed, free from dirt, trash and bolls.

Sec. III.—Off Seed.—Seed not coming up to the requirements of prime seed shall be considered off seed Off or damaged seed shall be settled for on its merit and comparative value as against value of standard prime seed.

OIL CONTRACTS.

Rule 17.—Sec. I.—Settlement of contracts for cotton seed oil shall be made on the basis of 53 gallons to the barrel.

Sec. II.—A contract for Refined Cotton Seed Oil shall consist of 100 barrels of a total of 5,300 gallons, provided that any deficiency or excess under or above the specified quantity shall be settled at the bid price of the 3 o'clock call on the day of tender, except on Saturdays when the bid price of the noon Call shall be taken as the settlement price.

Sec. III.—All sales for delivery during a specified month are f. o. b. and at seller's option, unless otherwise agreed.

Sec. IV.—When a seller fails to notify buyer before 4 o'clock P. M., two days before the expiration of the month, of his intention to deliver, it shall be deemed a failure of delivery, and the buyer is privileged to buy to cover the contract at the market price of the day following, holding the seller for any difference.

Sec. V.—Settlement of contracts for Cotton Seed Oil shall be at the bid price at the 3 o'clock Call on the Floor of the Exchange on the day of settlement, except on Saturdays, when the bid price of the noon Call shall be taken as the settlement price, it being understood, however, that a settlement cannot be substituted for a performance of contract except by mutual consent or as prescribed for in Section VI.

Sec. VI.—Any party holding a contract against another corresponding in all respects (except as to price) with one held by the other party against him, may close or cancel both, by giving notice in writing to said party, and where it appears that several parties have contracts between each other, corresponding in all respects (except as to price), and that a "ring settlement" can be made, the party finding said "ring," shall notify all parties thereto, leaving with each a copy thereof, and get their acknowledgement, from which time the said ring shall be in force, and cannot be broken by the failure of any of the parties therein, and all parties thereto shall be compelled to settle their differences on said contract with each other on the basis of the settlement price

SAMPLING.

Rule 18.—Sec. I.—Oil and Soapstock in Barrels.—When oil or soapstock in barrels is sampled by order of the Committee the Inspector shall draw samples of not less than 10 per cent. of the lot in question; in the case of oil, samples to be drawn in such a manner as to get uniform sample and to prevent the introduction of any moisture and excess stearine.

Sec. II.—Oil in Tank Cars.—If in tank cars at least two gallons must be taken well down in the body of the oil, and from this a one-gallon sample shall be drawn and placed in a perfectly clean tin can, which shall be securely fastened without the use of sealing wax, and carefully labeled so as to guarantee its identity and correctness and for the use of the Committee.

Sec. III.—Soapstock in Tank Cars.—When in tank cars samples shall be drawn in the approximate proportion of one pound to each ten barrels, and a thorough mixture made of same. From the mixture two one pound samples shall be taken and hermetically sealed in a can or jar, for use of the committee.

SALE ON SAMPLES.

Rule 19.—Sales on Samples.—When sales are made on samples through a broker, the broker's sample shall be the standard. Either party may require such sample to be put in the custody of the Superintendent of the Exchange at the time the sale is made.

MARGINS.

Rule 20.—Either party to a contract, prior to or upon signing the same, shall have the right to call an original margin of one dollar per barrel on Cotton Seed Oil or one dollar per ton on Cake, Meal or Hulls or one dollar per bale on Linters, either party to a contract can call for margin to meet any variations in the market, and all margins called before 12 M. must be deposited before 3 P. M. All margins on contracts shall be deposited in one of such Trust Companies, Banks incorporated by the State or National Banks, as may have been designated for the purpose by the Finance Committee of the New York Produce Exchange. In case of failure of any Bank or Trust Company in which such margins have been deposited, it shall be the loss of the party or parties to whom it may be found to be due, taking the average price of back deliveries on the day such Bank or Trust Company failed as a basis of settlement. When margins are called, originals or for variations in the market, certified checks must be drawn to the order of the Bank or Trust Company in which they are to be deposited. Checks must be sent to the Superintendent of the New York Produce Exchange, who shall deposit them and get a certificate of deposit, made payable on the order of the Superintendent of the New York Produce Exchange, and to the order of the buyer and seller. As soon as the Superintendent has received the Certificate, he shall send it to the party making the deposit, and an abstract of the same to the party calling the margin. In settlement, the Superintendent shall ascertain the amount due each of the parties at interest, and shall endorse the amount due each on certificate over his own signature, as instructed by both parties. In case the two parties do not agree as to the amount due on a margin receipt, either of them may refer the matter to the Committee on Cotton Seed Products for decision, which shall be final. On the decision of said Committee the Superintendent of the Produce Exchange, on being informed thereof, shall promptly endorse to each party the amount each shall be entitled to by such decision.

In case of the absence of the Superintendent, the President of the New York Produce Exchange or the Chairman of the Finance Committee shall act in his stead under this rule.

FICTITIOUS SALES.

Rule 21.—Fictitious sales or false reports of sales are positively forbidden, and will render the parties concerned liable to suspension or expulsion from the Produce Exchange.

The Yuca Oil & Supply Co., has been organized by F. M. Brotherton, John A. Young, and associates to manufacture oils and soaps from the bark of the yuca plant, in Atlanta, Ga.

Mottled Soaps.

The simplified Marseilles method of making mottled soap, according to G. Breuillard, consists of three operations: The manufacture, firstly, of a tallow and palm oil soap; secondly, of a cocoa-nut oil and palm-nut oil soap, the third and final operation being the mixing of the two soaps to form the finished article.

For the tallow soap 410 kilos of tallow and 150 kilos of palm oil are boiled up with 560 kilos of caustic soda lye of 7°B. for one to one and a half hours, and then 672 kilos of 12°B. lye and finally 240 kilos of 22°B. lye are added by degrees. On completion of saponification, which takes place after about five to six hours boiling, the soap is salted out.

The cocoa-nut oil soap is made from 140 kilos of cocoa-nut oil and 100 kilos of palm-nut oil saponified by 460 kilos of caustic soda of 23°B. and 60 kilos of potash of 22°B. Half the caustic soda is first heated up with the fats, with constant stirring, and when boiling the remainder is added a little at a time and finally the potash. Boiling is continued for about half an hour longer until all scum has disappeared.

The mixing together of the two soaps can be done in the kettle in which the tallow soap was boiled, after removal of the separated lye, by boiling them up until a homogeneous paste is obtained. The color, for blue mottled, 1 kilo of ultramarine, for red mottled 5 to 6 kilos of red ochre, mixed up in a weak lye, is sprinkled over the soap and the paste is well boiled to uniformly distribute it throughout the mass. The boiling must now be continued until the soap has attained that consistency necessary for the formation of the mottle. This point, which requires practice to recognize, is indicated, firstly, by a small quantity of the paste when pressed between the fingers, solidifying almost instantaneously a compact mass. Secondly, by the soap dropping off short from the spatula and not drawing out into threads.

When these indications are observed the soap is framed and well covered up so that it cools slowly, 5 to 6 days being necessary. The yield varies from 210 to 220 per cent.

The following recipes illustrate another method of manufacturing mottled soaps whereby a greater yield, but inferior quality, is obtained; at the same time it is necessary with this process to employ fresh fats and as pure lyes as possible.

I.

Palm Oil, 138 kilos.
Tallow, 12 kilos.
Caustic Soda Lye, 20°B., 180 kilos.
Potassium Carbonate, 33°B., 75 kilos.
Brine, 24°B., 75 kilos.
Potassium Chloride, 20°B., 45 kilos.

II.

Palm Oil, 150 kilos.
Caustic Soda Lye, 20°B., 180 kilos.
Potassium Carbonate, 33°B., 75 kilos.
Brine, 24°B., 75 kilos.
Potassium Chloride, 20°B., 40 kilos.
Color for both the above:
Blue (about) 0.5 kilos.
Caustic Soda Lye, 20°B., 2.0 kilos.
Soluble Glass, 5.0 kilos.
Water, 2.0 kilos.

The yields are about 350 per cent. For a 450 per cent. yield:

Palm Oil, 495 kilos.
Caustic Soda Lye of 30°B., 247 kilos.
Calcined Carbonate of Potash (89 to 96 per cent.), 70 kilos.
Carbonate of Soda, 70 kilos.
Water, 400 kilos.
Brine of 24°B., 495 kilos.
Color:
Blue, 0.400 kilos.
Soda Lye, 17°B., 1.75 kilos.
Soluble Glass, 4.500 kilos.
Water, 1.750 kilos.

The caustic soda is added to the melted fat in the kettle and then the potash. On the temperature reaching 105 to 110°C., the salt solution is gradually stirred in. The mass must be quite homogeneous, and after standing some time the scum is removed.

A trial sample of about 20 kilos is then taken out for mottling, a proportionate amount of coloring mixture being added to it.

If the soaps appears flaky, and at the end of about half an hour the surface is wrinkled, a considerable quantity of lye is wanted; if after this small crystals form, the amount of lye is still insufficient. Should the sample remain uniformly blue after half an hour, several kilos of palm oil must be well stirred into the soap, a second sample being taken after the lapse of a similar period and so on until the desired mottle is obtained.

The soap should be cooled slowly in well-covered-up frames, preferably wooden ones, having a capacity of not more than 1,000 to 1,100 kilos of soap. With a little experience fine mottled effects can very quickly be obtained.—Les Corps Gras Industriels.

The Census Inquiry Once More.

As we surmised when first considering the objectionable quality of the current Census Bureau inquiry concerning manufacturing details, the Director of the inquest, evinces every desire to be fair and moderate in his demands, when his attention is properly called to the matter. In one case where a concern had been asked to furnish a list of customers, the quantity of goods supplied to each during the year, the manufacturing cost of these goods and the price received for them, a polite reminder that the concern could hardly be expected in justice to furnish a list of its customers, together with their respective consumption and prices paid, secured a prompt and courteous withdrawal of the inquiry.

We reiterate our conviction that neither the Census Bureau nor any one else officially concerned has the remotest desire to injure the business of any American manufacturer. This being conceded, however, the fact remains that the line of inquiry as propounded is loaded to the muzzle with potential injury to manufacturers and trouble for the Bureau.

At the behest of the Paint Manufacturers' Club of Philadelphia the writer recently addressed to the Hon. J. Hampton Moore, chief of the Bureau of Manufactures, Department of Commerce and Labor, the following communication, and by order of the same Club, the editorial referred to therein has been reprinted for general distribution:

HON. J. HAMPTON MOORE, Chief of Bureau of Manufactures, Dept. of Commerce and Labor, Washington, D. C.

SIR: Before the receipt of your circular letter of the 24th, the Paint Manufacturers' Club of Philadelphia, acting on information received from Mr. Howard B. French, considered the matter set forth in your circular and deputed me to call your attention to a question in which your active influence might be of great service to the entire manufacturing interest of the country.

To set the subject clearly before you, I have been instructed to bring to your notice an editorial published in January issue of my own paper. This I take pleasure in enclosing herewith.

To the matter of this article but little need be added except to say that among all manufacturers whom I have seen (mostly paint, white lead and other manufacturers in kindred lines), in Philadelphia, New York, Chicago, Milwaukee, St. Louis and elsewhere, the Census Bureau's method of inquiry is bitterly resented. It is believed that the minuteness and particularity of this inquiry, whether published or not, can only result in eventual injury to such manufacturers as are still managing to maintain their independence of the various "trusts" or consolidations. A fact which strikes them all is that after an official in this Department obtains sufficient knowledge of the intimate statistics of manufacturing enterprises, he will be of more value to one or other of the great "trusts" than to the Government, and will be

promptly offered sufficient inducement to transfer his services. One has but to look back over the experience of various Secretaries of the Treasury, U. S. District Attorneys, etc., during the last ten or fifteen years to appreciate the significance of this apprehension.

Perhaps your influence in mitigating this peril might result in great good to American manufacturers, and certainly it would be directly in line with the "province and duty of said Bureau . . . to foster, promote and develop the various manufacturing interests of the United States."

Very respectfully yours,

G. B. HECKEL, Secretary.

To this communication the Chief of Bureau courteously responded with a promise of careful consideration.

Meanwhile the New York Paint, Oil and Varnish Club has devoted the larger part of a recent meeting to a consideration of the same topic, and appointed a special committee, under the chairmanship of Mr. S. M. Evans, to inquire further into it, reporting its conclusions to the Club for action.

We have called attention to the reasonableness and courtesy of the present Chief of the Census Bureau, and on being informed of this liberality, were at first inclined to advise the abandonment of the entire contention, leaving it to each individual concerned to make the proper representations to the Bureau regarding the limitation of his own returns. But our attention has been called to the fact that under the law the Chief of Bureau possesses unlimited option as to the scope and detail of his inquiry and absolute power to compel complete and accurate response. Under the law as it stands, therefore, while a moderate and reasonable Chief of Bureau will exercise his powers with due discretion, a less conservative official might demand and eventually secure full technical details of every manufacturing industry in the United States. Such details he would also have the right to publish if he choose or keep properly filed for access by anyone that would take the trouble to go to Washington for the purpose. There is nothing in the law so far as we can see, to prevent, for example, the appointee of some future President, from publishing to the world every detail regarding any group of manufacturing industries. That the present Chief has no intention of doing so is not sufficient, since such power resides in the Bureau as a menace .

We think, on this ground, that the matter lies beyond remedy through a mere protest to the Department or its Bureaus; it is for the Congress which so loosely conferred these general powers to curtail and define them. We therefore recommend concerted action by all organizations representing manufacturers to secure the passage of a statute limiting and defining the scope of the Census Bureau inquiry. But we would also interpose a word of caution to those who may interest themselves with the matter: Congress undoubtedly had a definite object in view when it authorized this inquiry; and that object can be ascertained by correspondence with the author of the law or with the chairman of the committee which recommended it for adoption. This object being ascertained, the appeal for modification should be made with due respect for the object intended to be gained by the application of the law. An appeal to Congress for amendment on these lines would probably prove effective.—Drugs, Oils & Paints.

Extraction of Glycerine From Impure Soap Lyes.

A process, which presents certain novel features, has been devised by E. Barbet for the extraction of glycerine from waste residues, more especially with reference to those from distilleries which he terms "vinasses," but it is also applicable for the recovery of glycerine from very impure spent lyes from soap works, which when evaporated down barely contain 30-40 per cent. of pure glycerine and by reason of the large amount of organic impurities present are incapable of distillation in vacuo.

After having been neutralised and filtered, if necessary, the glycerine lyes are concentrated, preferably in a multiple effect evaporator, as far as possible and then cooled to allow the salts to crystallise out. The viscous mass is then mixed with half-slaked powdered lime in a mill which forms it into a granulated product, the proportions being 1-4½ kilos of lime for 1 kilo of the syrupy liquid. Mixtures of quicklime with infusorial earth, chalk, etc., may also be used, the essential point being to form a granular product, neither pitchy nor friable.

This product is then treated with high percentage alcohol (95-96 per cent.), the alcohol readily penetrates into the centre of the granules and dissolves out the glycerine whilst the salts and organic substances in the presence of the lime are rendered almost insoluble in alcohol. In order, however, to carry out the extracting process in a practical manner it is necessary to employ a battery of extractors, analogous to that of the Manoury process, in which fresh alcohol is used to complete the extraction of the half-exhausted granular product, and when charged with a certain amount of glycerine it is drawn off into another of the series of extractors and a charge of fresh material poured in upon it from the top; in this way by striking the alcohol the grains are prevented from adhering together, thus facilitating the extraction process.

To recover the alcohol retained by the residue after completion of the extraction it is found preferable to use hot air instead of steam. A moderate current of hot

air or gas is therefore blown through the extractor from bottom to top. Alcohol is very readily driven off at 96° C. and evaporates from the granules, leaving them dry instead of pulpy as steam would do, which when the material is to be employed for manure is an advantage saving the trouble of subsequent drying; further, the recovered alcohol remains at a high degree and can be used again. If any ammonia is formed it can be removed from the alcohol by the addition of a little sulphuric acid when insoluble sulphate of ammonia separates out.

The distillation of the alcoholic extract containing the glycerine is a very simple operation, and on evaporating down to 28-29° B., a very strong glycerine liquid is obtained which can be further purified by filtration through animal charcoal and then contains but few impurities.

It will thus be seen that the process is characterized by a new combination of known methods, thus: the concentration of the liquors to a strong density, crystallization of the salts, use of pulverized lime, inter-mixture in a mill of appropriate description, methodical extraction with alcohol, distillation of the alcohol from the exhausted material and from the extracted glycerine, forming an industrial method for the extraction of glycerine from very impure residues. Other essential points to be noted are the formation of a granular porous material with lime capable of being easily treated with alcohol. The systematic extraction with alcohol of high percentage and recovery of alcohol by distilling with hot air, whereby it is kept at a high degree of strength.

Principles of Partnership.

There has been a visible drift of late years toward not only corporate organization of business, but also a tendency for the one-man style of enterprise to give way to partnerships. Perhaps this is more or less due to the divisions and subdivisions in business nowadays, the frequently broad line between office work (including finance, accounting, etc.) and the operating departments. Of course men will continue to carry on their work under individual names more or less for all time; but the trend is decidedly the other way just now. This has brought into being a frequent inquiry as to the principles that underlie partnerships, one of which reached the writer since the last issue of the National Laundry Journal was published.

In order to constitute a partnership between two or more persons there must be an agreement between them, though not necessarily in writing; and in either case special arrangements can be made as to the nature of the partnership. For example, one partner, although sharing profits and losses, may have no right to interfere with the management of the business, or he may have no right to dissolve as an ordinary partner has; or he may even not be entitled to share in the good will of the business in the event of dissolution. When there is no deed of partnership, or any agreement in writing, the question as to whether a partnership exists, or any dispute between the partners, must be ascertained from their words and conduct; and, even where a written contract has been entered into it may be modified by a verbal agreement between the partners.

Unless an intention to the contrary can be shown, persons engaged in any business and sharing its profits are partners. In fact, as regards the question as to whether persons are really partners or not, it is answered by deciding their intention from a consideration of the agreement into which they have entered. An agreement to share gross returns does not constitute a partnership. Neither is a partnership created between persons who are only contemplating a future partnership, or who have only entered into an agreement that they will at some future time become partners. When one person contemplates joining another who is already in business, and agree that the business shall be carried on upon certain terms, stipulating for an option to become a partner at a specified time, or at any time he may choose, a partnership is not created until the person holding the option has exercised it.

Whatever may be the private arrangement between persons carrying on an enterprise, any one who holds himself out as a partner is liable to those to whom he thus represents himself as such. A person may be interested in the share of a member of a partnership (usually called sub-partnership), and the parties to it are parties *interse*, but this in no way affects the other members of the principal firm; and a sub-partner cannot be held liable to the creditors of this firm because he participates in the profits.

Agreements to share profits, like all the other agreements, require to be founded on some consideration in order to be binding. Any contribution in the shape of capital or services is a sufficient consideration to support an agreement. An incoming partner on being admitted to an old and well-established business frequently agrees to pay a premium. Such an agreement is valid; and, if the premium is not duly paid, it may be recovered by an action, provided the plaintiff has been ready and willing to take the defendant into partnership as agreed. A valid contract of partnership can be entered into between any persons of legal age and of sound mind. Married women may be partners under certain circumstances; a non-resident or an alien may be a partner; also one under legal age, but as such he incurs no liability, and is not responsible for the debts of the firm.—National Laundry Journal.

PATENTS AND TRADE-MARKS.

The following list of recent Patents and Trade-Marks is reported by W. G. HENDERSON, Solicitor of American and Foreign Patents and Trade-Marks, Norris Bldg,, Washington, D. C. A copy of any of the following will be furnished by him for 15 cents.

PATENTS.

790,154. Forming Soap from Hydrocarbon. Giuseppe Reale, Lauria, Italy.

790,319. Soap Cake. Leopold S. Samuel, Newark, N. J.

791,072. Shaving-Soap-Stick Holder. Newell C. Bradley, Philadelphia, Pa.

LABELS.

12,142. Title: "Boraxall Soap." (For Soap.) Schoellkopf, Hartford and Hanna Co., Buffalo, N. Y.

TRADE-MARKS.

The following trade-marks are found to be allowable, and will be registered if no opposition is entered against them within thirty days from their publication.

Ser. No. 224. Soap. William Waltke & Co., St. Louis, Mo. The word "Lava."

Ser. No. 408. Toilet and Laundry Soap and Soap-Powders. Chauncey F. York, Warriors Mark, Pa. The hyphenated word "Ma-Le-Ma."

Ser. No. 455. Toilet Soaps. Benjamin Levy, Boston, Mass. Concentric rectangular figures with the words and abbreviations, "Ben. Levy, Parfumeur, Boston, Mass.," occupying the center thereof, the outer rectangular figure or border being dentated and provided with a square within each corner. A star is on each square, and a fine wavy line is also in the bor der.

Ser. No. 464. Perfumed Preparations in Powdered, Paste, Solid, and Liquid Forms. Batcheller Importing Company, New York, N. Y. The word "Bathasweet."

Ser. No. 954. Laundry Soap. J. G. Haas Soap Co., St. Louis, Mo. The word "Ovalette."

Ser. No. 1,119. Cologne-Water and Other Perfumery. F. Hoyt & Company, Limited, Philadelphia, Pa. The words "Hoyt's Dime Cologne."

Ser. No. 1,246. Toilet Soap. Muhlens & Kropff, New York, N. Y. The words "Riviera Castile."

Ser. No. 1,248. Toilet Soap. Muhlens & Kropff, New York, N. Y. The words "La Baronesse."

Ser. No. 1,249. Toilet Soap. Muhlens & Kropff, New York, N. Y. A picture of the Cologne Cathedral in connection with the words "La Cathedrale."

Ser. No. 1,288. Toilet, Laundry, and Medicinal Soap. The Pioneer Tar Soap Co., Dayton, Ohio. The word "Nysa."

Ser. No. 1,746. Medical, Toilet, and Shaving Soap. Pasfield Soap Company, Brooklyn, N. Y. The word "Cuticle."

Ser. No. 2,222. Laundry Soap. Troy Laundry Machinery Company, Limited, Chicago, Ill. The word "Trojan."

Ser. No. 2,747. Toilet Soap. Lambert Pharmacal Co., St. Louis, Mo. The word "Listerine."

Ser. No. 0,000. Soap for Toilet Use and General Household Cleaning and Scouring Purposes. William M. Hoagland New York, N. Y. The word "Knocko."

Ser. No. 2,989. Soap. Lawrence J. Maloney, Boston, Mass. The phrase "Knock-'Em-Stiff."

AROUND THE SOAP FACTORIES.

News-items sent us by our readers will find prompt attention in this column

The Fourth Estate says: The Haas Soap Company, St. Louis, has made an appropriation for advertising in Southern papers. Copy was started in Memphis June 13. This is not a large account but is likely to be a steady one. Orders are given by the Western Advertising Company, St. Louis.

Mr. Geo. A Schmidt, Jr., of Chicago, was united in marriage to Miss Lillian Josephine Habig, daughter of Mrs. Barbara Habig of Chicago, on June 28th. The ceremony was performed in St. Paul's Church. Our best wishes accompany the young couple.

The National Soap Company, of Detroit, Mich., has filed articles of association in that state, with a capital of $50,000, naming as stockholders Robert L Hall, John Rowland, Albert H. Cramer, and Charles K. Latham. The company takes over the plant at 438 Franklin street, Detroit.

The National Soap Manufacturing Company, of Philadelphia, Pa., has bought a lot at 26th street and Susquehanna avenue, on which to build a three-story manufacturing plant, 50 by 100 feet.

B. B. Hamlin, Jr., for the past three years manager of the American Peroxide & Chemical Co., Messrs. Richard J. Olsen, and Anthony J. Mooney, chemists of same company, resigned their positions on June 1st and are acting in the same capacity for the Hidrox Chemical

Co., 140 Maiden Lane, N. Y.; incorporated under the laws of the State of New York, June 5th, 1905, having as its object the manufacture of Peroxide of Hydrogen, Stearate of Zinc, Cold Cream and Pharmaceuticals.

The Roever Soap Co. of Chester, Pa., on June 1st celebrated the event of shipping on that day 500 boxes of soap—the largest shipment in the firm's history.

The Cellulose Soap Company, of Rutherford, N. J., has been incorporated to manufacture soap, toilet articles and preparations; capital, $50,000. Incorporators: Charles W. House, No. 146 Carmeta avenue; G. M. G. Freeman, No. 71 Newell avenue, both of Rutherford, N. J.; C. F. Pierce, No. 302 Fifth avenue, Union Hill N. J.; S. Clarence Simon, No. 314 Warren street, Brooklyn; Edward G .Schultz, No. 304 West 20th street, New York.

Atlanta, Ga., June 6.—A mammoth soap factory, with an output of 25,000,000 pounds, is the latest addition to Atlanta's manufacturing industries. The plant will be owned and operated by Swift & Company, of Chicago, and will be located at the corner of Wells and Hollis streets, in the buildings formerly occupied by the Georgia Soap Company and recently used by the Piedmont Oil and Refining Company.

Swift and Company recently closed a trade for the buildings and ground, since which time new machinery has been installed, and the plant will be in operation within the next thirty days.

Seth Swift, of Chicago, a younger member of the family, is now in Atlanta, and will make his home here in the future, as he will be superintendent of the big soap plant. H. A. Rogers, who for several years has been located in Atlanta, being general manager of the fertilizer works of Swift & Company, will remain here and will have general supervision of the soap factory.

Since the consummation of the deal, Swift and Company have had a large force of hands at work installing new machinery and enlarging the plant, which was entirely too small to suit the needs of the company. This work is still in progress and it will be two or three weeks before the plant will be ready for operation.

When seen regarding the establishment of a soap factory in Atlanta, H. A. Rogers, Swift and Company's general manager, said:

"Swift and Company, of Chicago, have purchased the plant at Hollis and Wells streets, formerly owned by the Piedmont Oil and Refining Company and once occupied by the Georgia Soap Company. The deal was closed several days ago.

"It is the purpose of the company to manufacture high grade laundry soap for the present, the leading brand being 'Swift and Company's Pride.' No toilet soaps will be manufactured for the present, though it is possible we will undertake to develop this feature of the industry later.

"Swift and Company already have a large market for soap in the south, and lately this has grown to such proportions that it has taxed the capacity of their Chicago factory. On this account it was deemed wise to establish a factory in the south, and Atlanta has been selected.

"The plant will have a capacity of 500,000 pounds of soap per week, or about 25,000,000 pounds a year."

The Dobbins Electric Soap Company, of Seventeenth and Federal streets, Camden, N. J., is to build a one-story brick addition 110x29 feet. A permit for the work was issued by Building Inspector Steinmetz.

Goshen, Ind., June 15.—Thomas Davis, receiver for the Cosmo Buttermilk Soap Company, filed schedule of claims. The unsecured amount to about $26,000, judgments, $500 out standing and bonds whose value the court will ascertain.

The Cosmo Buttermilk Soap plant, which with building, machinery, patent rights and good will, is estimated to be worth from $100,000 to $150,000, will be sold in four weeks at public sale for cash.

It has been reported that the plant would be absorbed by a Pennsylvania concern, but the facts are that there will be a reorganization with new capital and new management.

The establishing of the soap plant on a new and active basis with plenty of capital and enterprise back of it will be a great thing for Goshen. The plant is an enormous one, and finely equipped with modern machinery.

The Flash Products Company, manufacturers of soap from cocoanut oil, at No. 26 Moore street, New York City, has, through its directors, Thomas E. Munday, Lewis W. Ludlow and Joseph N. Early, applied to the Supreme Court for the voluntary dissolution of the company and the order to show cause was set down for September 13 by Judge Clarge. The liabilities are $5,027 and assets $2,259. The company was incorporated on June 5, last, with a capital stock of $10,000.

Frank W. Brown, Jr., a member of the Rome Soap Manufacturing Company, on Thursday, at Milford, Conn., was united in marriage with Miss Florence H. Davidson of that place. Mr. and Mrs. Brown left on a trip through Canada. They will make their home in Rome.

There are four soap factories in Hayti—one in Cape Hayti, one in St. Marc, one in Port au Prince and another one recently started at Aux Cayes. This latter

one, called the "Avenir," has been granted the privilege for 10 years of the free entry of tallow, resin and potash. In return for this privilege the factory is only to employ Haytian workmen, and is to sell its soap 30c per box under the price of soap imported from abroad. Common soap is imported from the United States. Under the new tariff soap pays 1 gourde per 100 lbs. A gourde equals 96½ cents.

Judge Greenbaum, of the Supreme Court, has appointed George Rubenstein receiver for the Moore Company, manufacturer of soaps and perfumes, of 288 Greenwich street, New York City, on the application of Henie Liebeskind, who obtained a judgment against the company on November 1 last for $5,490, growing out of a lease which has been in litigation for several years. The business was started in 1890 and the company was incorporated in January, 1901, with a capital stock of $10,000.

Buffalo, June 3.—Anthony Neupert, 67 years old, a prominent Buffalonian who was formerly in the soap business as a member of R. W. Bell & Co., in this city died in Germany yesterday, according to a cablegram received by his son-in-law this morning. According to the dispatch the body is now being brought home by his son Edwin, who has been traveling through Germany with him since April 29. He expects to arrive in New York with the body on the 13th of this month.

Mr. Neupert was alone with his son when he died, and the family have received no particulars as to the cause of his death. His wife died while in Europe about a year ago.

Green Bay, Wis.—The Fox River Soap Company has received a consignment of two carloads of Ceylon cocoanut oil for use in the making of the company's soaps. Manager C. W. Streckenbach states that the lot is by far the largest shipment of this product ever received in the city and was shipped direct from India to the company.

Z. Leake has bought M. Hart's interest in the soap factory in Monroe City, Mo.

Toronto, Ont., June 1.—Peter Ryan, Registrar for West Toronto, has filed a petition asking for the winding up of the Purty Manufacturing Company, dealers in oils and soaps. The company assigned on May 30th to J. P. Langley of Toronto. The capital stock is $40,000, of which $27,000 is paid up. The directors are Alfred H. Pritchard, holding $16,000 stock; Frank Sullivan, holding $4,000 and Alfred Brown, holding $9,000. The overdue liabilities amount to $5,000.

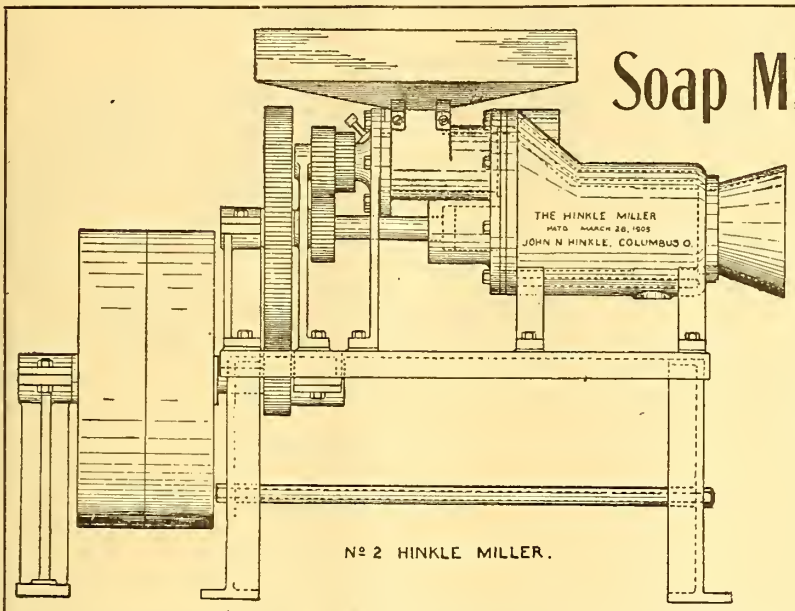
The E. H. Brown Manufacturing Company, New York, has been incorporated to manufacture soap, etc.; capital, $100,000. Incorporators: E. H. Brown, Elizabeth, N. J.; John L. Moore, No. 288 Greenwich street; Edward J. Larkin, No. 271 Broadway, New York.

Additions to Our Brand List.

356—H. E. Wofford Co., Baltimore, Md.
357—Fox River Soap Co., Green Bay, Wis.
358—Lever Bros. Co., Cambridge, Mass.
359—Lever Bros. Ltd., Port Sunlight, England.
360—Royal Soap Co., Goshen, Ind.

Ammo Wash. P.—F. L. Fraser, Detroit, Mich.
Aseptine—J. A. Simonds, New York, N. Y.
Big Cape, Cape City S. Works., Cape Girardeau, Mo.
Ceral—Gustave Lohse, Berlin, Germany.
Dolly Varden — A. W. Wilwid & Co., Newark, N. J.
Fawn—Cumberland (Md.) Soap Co.
Lustro—F. L. Hunt, Cincinnati, Ohio.
Merry War, Cape City S. Wks., Cape Girardeau, Mo.
Oleo—Germ. Amer. Soap Wks., New Orleans.
Power Soap — F. Martin, Columbus, Ohio.
Radium—Natl. S. Corporation, Boston.
Strajuso—Frazer Soap Co., Chicago, Ill.
Strawberry Juice Transparent Glycerine S. No. 202—Frazer Soap Co., Chicago, Ill.
Volcano—F. L. Hunt, Cincinnati, Ohio.

Angelo Olive 54
Aroma de Clavel 54
Bell's Benzene 343
Big Cannon 357
Boro Myrr 54
Bright Home 356
Cannon 357
Clavel 54
Cu-Te-Na 351
Cygnet 74
Don't Worry 74
Four Leaf Clover 54
Gasene 106
Glyco Tar 54
Golden Dawn 357
Golden Dragon 54
Golden Star 357
Gold Medal 106
Hoefner's Ammonia S. 55
Indian Tar 357
Individual Toilet 54
It 4
Keno 106
Koko-Oil 54
Kold-Wata 54
La Batea 2
La Fiesta 54
Lazarre Castile 357
Magno 106
Morning Glow 360
Navarino 357
Osmosis Soap 4
Oxykali 16
Peach Bloom 356
Pearl Borax Chips 74
Prairie 72
Prismal 106
Radio 106
Sau-Tar 351
Savon Fleur de Lis 54
Signet 74
Spick and Span 106
Stellar 106
Thanksgiving 313
Trix 54
Veg-Oil 113
Vegetore 4
White Dawn 357
White Man's White Tar 357
Wofford's Complexion 356
Yellow Star 357
Atlantic Turkish Bath 16
Chancellor 16
Climax Turkish Bath 16
Cupid Rose 16
Delicia 16
Delicia Pink Carnation 16
El Merito 16
Eagle 16
Figaro 16
Harvard 16
Heliotrope d'Amerique 16
Hold Fast Shaving 16
India Cocoa 16
Klondike Nugget 16
Klondike Tar 16
Levanto 16
Matador 16
Persian Bouquet 16
Persian Rose 16
Persian Violet 16
Riviera Jockey Club 16
Royal Violet 16
Royal Rose 16
Regal Oatmeal 16
Saida Turkish Bath 16
Sanitarian Pine Tar 16
Sanitarian Carbolic 16
Sanitarian Sulphur 16
Senator 16
Trade Mark Barbers Shaving 16
Trade Mark Carbolic 16
Trade Mark Sulphur 16
Trade Mark Birch Tar 16
Yule Tide 16
Yule Tide Bouquet 16
Palestine 16
Palestine Honey 16
Magnolia Bouquet 16
Superfine Elderflower 16
Superfine Witch Hazel 16
Superfine Brown Windsor 16
Up-To-Date 16
Ascage Carpet 4
Ascage Floating Bath 4
Ascage For The Bath 4
Ascage Massage Cream 4
Ascage For The Teeth 4
Ascage For Shaving 4
Ascage Shaving Cream 4
Ascage Sulphur 4
Ascage Tar 4
Ascage Carbol 4
Anto-Ascage 4
Barbers' Bar 4
Barbers' Cream Shaving 4
Beauty Pura 4
Burlight 4
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Dog 4
Egg Shampoo 4
Elgin Milk and Rose 4
"Elite For The Complexion" 4
Floating Panel Bath 4
Floating Panel Ascage 4
Granular Ascage 4
Kokoabutter Shaving 4
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Savon a la Rose 4
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"Soaps That Think" 4
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Tan & Freckle 4
This Is "It" 4
This Is "It" For Shaving 4
This Is "It" For Bathers 4
This Is "It" For Mechanics 4
Universal Cleaning Mixture 4
U. S. Hygienic Toilet 4
Vegetable Toilet 4
Wise Bather 4
Witch Cream Shaving 4
Witch Hazel Cream Shaving 4
Wise Shaver 4



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No. 2 Machine will mill perfectly, in but two millings, seven and one-half tons of soap per day. Eight horse power required.

No. 3 Machine will mill perfectly fifteen tons of soap per day, going through the machine one time only, thus milling as much soap as fifteen of the old-style mills, thus saving time, labor and power. Fifteen horse power required.

MANUFACTURED BY

JOHN N. HINKLE,
COLUMBUS, OHIO.

Enquiries are being made by a practical soap manufacturer as to the practicability of establishing a soap factory in Walla Walla, Wash.

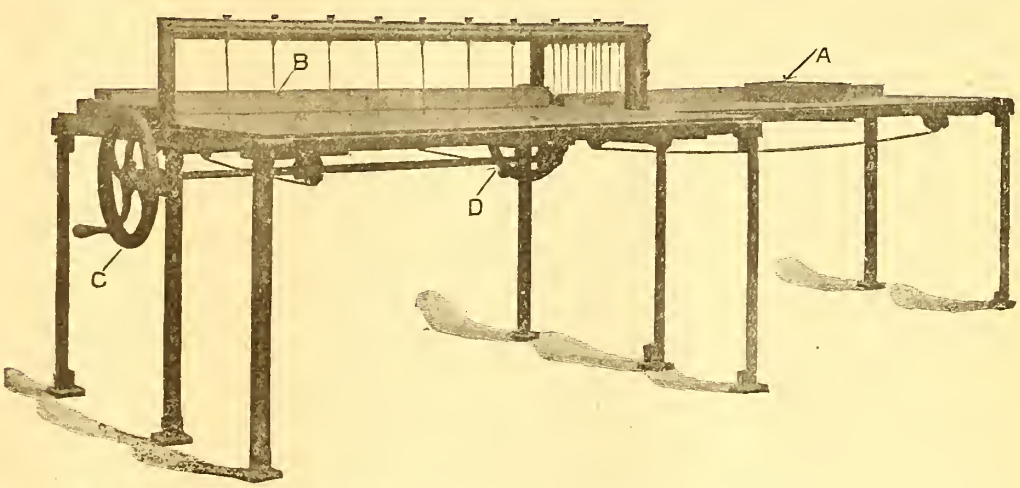
Osler Wade has been appointed to conduct the liquidation proceeding of the Ritchie-Heran Company, Limited, of Brampton, Ont., Canada, soap manufacturers, insolvent and being wound up.

Indianapolis, June 13.—A complaint was filed in the Federal Court this morning by the J. B. Williams Company of Glastonbury, Conn., against the Williams Soap Company, of this city, of which Sidney F. Daily, Jesse M. Daily and Jacob Goodhart are the principal stockholders, alleging that the Indianapolis company has been infringing on the trade-mark of certain toilet and shaving soaps.

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Including also the Brands of Foreign Manufacture Registered as Trade-Marks in this Country.

NOTE: This list is compiled with the greatest possible care, but the publisher does not assume any responsibility other than to correct and to complete the list according to data obtained from official sources or furnished by the trade. Brands registered in the patent office as trade-marks or labels are given with the name of the party registering same. Brands or names marked * are those which were found to be used by more than one firm or the owner of which could not be ascertained. ☞ SEE THAT ALL YOUR BRANDS ARE ENTERED IN YOUR NAME.

3 Liberty Mfg. Co., Chicago.
113 Puck Manufacturing Co., Des Moines, Iowa.
344 Home Soap Co., N.Y.
345 Columbia Ref'g. & M'f'g Co. Ltd, New Orleans.
346 Beaumont Soap Co, Mayfield, Ky
347 Lockwood Soap Co., Kansas City, Mo.
348 Oklahoma Soap & Oil Co., Oklahoma City.
349 M. F. Windsor Soap Co, East Buffalo, N. Y.
350 Florida Cotton Oil Co., Jacksonville, Fla.
351 Brown Soap Co., Dayton, Ohio.
353 Southern Soap Co., Birmingham, Ala.
354 Zion City Soap Factory, Zion City, Ill.
355 Palami Co., Boston, Mass.

Abrado, Floridine Mfg. Co., New York.
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All-need it 286
Allpine Tar 337
Amazon Coc 337
Amber Rose 346
Ammonaptha 347
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Angelus 54
Antelope 3
Antillia 2
Antler 337
Anty Up 340
Apple Blossom 337
Aquidneck: F. P. Garrettson & Co., New York City.
Atoka 346

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Bannock 3
Bauty 32
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Bell's Naphtha 343
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Crystal Palace 3
Crystal Transparent Tar 3
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The American Soap Journal & Manufacturing Chemist.

A MONTHLY JOURNAL OF THE MANUFACTURING CHEMICAL INDUSTRIES.

DR. HENRY GATHMANN, PUBLISHER. 2707 North Ave, Milwaukee. MILWAUKEE, WIS., August 1, 1905. VOL. XV. No. 12.

THE

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AND

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The AMERICAN SOAP JOURNAL AND MANUFACTURING CHEMIST is devoted to the interests of all manufacturing industries of a chemical character, and is an absolutely independent publication. It is the only newspaper of its kind in America and has also a large foreign circulation.

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Communications on industrial subjects, news items, and any information suitable for printing in these columns, are solicited and will have due attention.

Readers in search of machinery, supplies etc., not advertised in these columns, are invited to write us and we shall endeavor to supply the information.

Address all communications to

DR. HENRY GATHMANN, Publisher,
2707 NORTH AVENUE,
MILWAUKEE, WIS., U. S. A.

On another page we attempt, as best we can, to report the demise of one of the oldest and best friends of this journal, Mr. Chas. Melzer. Our task is not well done, as we realize ourselves, but our heart is not in it and we can do no better. It is only when we think what the Soap Journal has lost in him, that we can begin to realize what his family, his city and the soap trade in general must miss in the departure of such a man.

Regarding the uses of soap, a correspondent has sent us the following note:

When nails are to be driven into a board or into wood or furniture where it is feared that they may split the wood, first lay them in soap water or pound them into a bar of soap, and then drive them into the wood. If this is done they will never split the wood.

Chance stains on carpets and rugs may be removed in the easiest and best way by scrubbing with a small stiff brush which has been rubbed over a piece of soap, the spot being rinsed and wiped in clear water immediately. A little soap mixed with stove blacking will produce a better shine with less work, and a luster that will last for a long time.

Plated silverware can be cleaned by allowing it to stand for a few hours—three or four—in hot water in which a handful of borax has been dissolved and one-fourth of a bar of common yellow soap has been cut up and melted.

Solid silver can also be cleansed in this same way, which is not laborious, and does not wear off the plate like the ordinary rubbing usually given silver that is being cleaned.

From the Philadelphia Bulletin:

To the Editor of The Bulletin:

Sir: Please give recipe to make soap out of cocoanut oil. CONSTANT READER.

(Put fifty pounds cocoanut oil and fifty pounds caustic soda lye of twenty-seven degrees Baume into a soap kettle; boil and mix thoroughly for one or two hours, until the paste gradually thickens; then diminish the heat, but continue stirring till the cooling paste assumes a white, half solid mass and then transfer quickly into frames.)

* * *

"Bully for the Bullytin."

B. T. Babbitt Co., soap manufacturers, have very decided views regarding the proposed legislation at Washington in the matter of railroad rates, and have sent the following communication, under date July 12, to the chairman of the Interstate Commerce Committee, United States Senate, and the chairmon of the House Committee on Interstate and Foreign Commerce, Washington, D. C. This company is now constructing what will be one of the largest soap works in the world at Granton, N. J., which place will in the near future be called Babbitt, on account of the great plant and the development which will take place in the locality. This soap company ships its products to all parts of the United States and is largely interested in railroad rate matters:

"We desire to enter out protest against any legislation which will give the government the right to fix railroad rates. We are in favor of the most drastic legislation to prevent the railroads from giving secret rebates and making discriminations in favor of one shipper over another. All under similar circumstances and conditions should be treated alike and no one shipper should be favored above another. This is so essential to the business interests of this country that laws should be made on this subject and worded so clearly that there can be no possible misunderstanding. We should know, now and for all time, that no one is getting a better rate than we are under similar circumstances and conditions.

"The giving of secret rebates, or of doing for one what is not done for all, should be effectively legislated against; but we draw the line at the right of the government to make the rates that the railroads shall charge.

"It is true that the railroads are, to a certain extent, a semi-public institution, and the government has therefore the right to a certain amount of control over their conduct, and where rates are excessive or unjust the matter should go before a court of equity and justice should decide the matter.

"The railroads have the right of eminent domain; they can take land to extend their railroad in the national interests, and where the price of land is exorbitant the courts try the matter and fix a fair rate; but this does not warrant the government in telling the land owner at what price he must sell the remainder of his land to other individuals.

"The railroads manufacture a commodity called 'transportation,' which they sell at the market price. They are, after all, private enterprises of a semi-public nature—an aggregation of individuals who subscribe capital for the construction of a transportation venture, and they are entitled to a fair return on their investment, the same as every other business.

"The western and southern parts of the country are far from being developed in the matter of railroads, and manufacturers of all kinds look forward to the building of new railroads and the consequent settling up of territory now sparsely populated, so that new markets can be created for manufactured product. If the government be permitted to fix rates the investing public will be reluctant to put its money into new railroads. It requires, as stated, an aggregation of capital to build a railroad. If the government be permitted to fix the rates it would have to state beforehand what the rates on a newly-projected railroad would be, which in nine out of ten cases would be practically impossible. Government supervision or regulation is all right, but one can have too much interference, with the result that 'cold water' is thrown on private enterprise. As stated, we are in favor of the most drastic laws to prevent secret rebates and unjust discriminations, but we are emphatic in protesting against the right of the government to make the rates.

"We have been in business for more than sixty years, and feel that it is our duty, as citizens and manufacturers shipping to all parts of the country, to respectfully ask that our views be considered, as we are interested in the maintenance of correct principles, so that this government may endure on solid lines and private enterprise, which has made it great, be not discouraged.

"Yours truly, B. T. BABBITT.

"By Clarence M. Hyde, President."

NEW STYLE OF FIRM.

Montreal, July 1st, 1905.

The firm of Alfred Savage & Son, established by the late Alfred Savage in 1840, has been incorporated under Dominion Charter as

ALBERT SOAPS LIMITED,

and will continue the affairs of the old firm without any change in the management or resources.

The president of the new company has associated with him in the management, John F. Savage, E. F. Favreau and W. H. Fisher, who have been with the late firm for many years, and takes this opportunity of thanking his friends for the confidence and good will shown in the past, and solicits for the Albert Soaps Limited a continuance of their kindly relations.

The sympathetic help and appreciation of the trade in our efforts to better our product, and raise the standard of soap making in Canada, has always been a source of satisfaction to us, and it will be our endeavor in the future thus to serve our customers.

Yours sincerely,

ALBERT SOAPS LIMITED,
John G. Savage,
President and General Manager.

OBITUARY

Of all the tasks that have come to us during the many years of publishing this paper, none has been so hard and so sad to the writer as the one now compelling him to chronicle the parting from us of Mr. Charles Melzer, of Evansville, Ind.

Mr. Charles Melzer, who died in Montclair, Colo., July 24, was born in Louisville, Ky., May 29, 1857, and came to Evansville with his parents in 1861. In the schools of this city he obtained an education amply sufficient for practical business life, and upon the death of his father, A. Melzer, Sr., succeeded to his interests in the soap business established in 1871 by his father and his older brother, A. Melzer, Jr.

Mr. Charles Melzer entered upon his duties with exceptional ardor, and for the purpose of extending his knowledge and acquainting himself with the methods practiced in leading establishments in his line, started,



CHARLES MELZER

in 1880, upon a tour of this country and Europe, which occupied over two years and included the study of chemistry in Berlin. The practical results of his travels and studies were the introduction in the factory of new and improved processes of manufacture, based on

scientific principles and the recovery of valuable by-products which, until then, had gone to waste.

In 1890 Mr. Melzer was united in marriage to Miss Alma M. Straub, of Evansville, and this union was blessed with three children, one son and two daughters, all now living.

Mr. Melzer was never physically robust, and for years had suffered from nervous disorders caused by too close application to his business. In addition, a tubercular affection of his right lung developed in the summer of 1900, which necessitated a change to the dry climate of Colorado. After remaining there for over a year, he returned to Evansville much benefited, but had to go back again in the summer of 1903. Again much improved, he returned to his home in June, 1904, but after a brief stay was compelled to hurry back to Colorado for the third time. From the bad effects of his last visit to his home city he recovered very slowly, and realizing that he could nevermore live in Evansville, sold his business interests to his brother and partner, A. Melzer, and then built for himself and family a very comfortable home in Montelair, Colo., a residence suburb of Denver. This home was completed last February, and although he now lived under the most favorable conditions under the care of his devoted wife and the best medical attention, his apparent improvement in health was not of a substantial and lasting kind.

In April his condition grew worse and thus continued until his earthly existence was terminated by a peaceful death at 8:10 last Monday morning. At his bedside were his family, his sister, Mrs. Froelich, brother, and Rev. Schmidt.

Mr. Melzer was dearly beloved wherever he went; the citizens of Evansville knew him well, and his demise is felt as a painful loss by the whole community; Evansville misses in him a man who was an honor to the city. In him is lost a loving father and husband, a most upright business man, a public spirited citizen, and above all, a man who at all times was deeply and unselfishly sympathetic with everything that concerned the welfare of his fellowman.

But forty-eight years old, he has left us only after giving us in his daily life an example of what our lives should be; but altogether too soon for one of his energy, honesty and ability. He loved his home so much, that even at the risk of his health he returned to it repeatedly, and until the last he maintained a lively interest in everything that made his whole life so useful.

* * *

The soap manufacturing circle lost in him one of its best known and most respected members, and one whose death will be most genuinely regretted by every soap maker in the country.

* * *

It is with the most sincere regret on our part that we feel the limitations of our pen on this occasion, to express fully our sentiments on this loss. We can only extend our sympathy to the relatives of the departed and trust that the great many proofs of affection offered to the bereaved family will in a measure soften their sorrow.

Albuminous Preparations in Toilet Soap Manufacture.

(Translated from Der Seifenfabrikant.)

Many attempts are being made to utilize in the manufacture of soaps various preparations of albumen—both of animal and vegetable origin. It is used principally in the form of caseine, also in other forms, but almost invariably in the form of a powder; the later then requires to be subjected to a process of solution before it can be incorporated into the soap.

Two distinct ideas underlie these efforts: One is in the direction of lessening the cost of soap—considering the albumen as a filler—the other idea being to make an improved soap by the use of albumen.

For the purpose of actually lessening the cost of the soap, albumen and its preparations are in point of fact too expensive. True, taking casein as an example, it binds a large percentage of water; but in drying the chips for the milling process the greater part of it is lost again and the expected gain is largely imaginary. Before milling, a soap should contain not over 15, or at the most 16 per cent. of water; if it answers this description, the calculation of cost with the use of casein will not show up advantageously. If it is attempted to add the preparation in an emulsified form to the soap in the mill, the finished article has the fault of swelling up in water and wearing away unevenly in use. Certain other preparations of albumen affect the color of the soap, changing it to light brown or various shades of yellow; this would interfere with such colored soaps as white, pink, light yellow, light green and salmon red. It is not likely that the consumers would be satisfied to confine themselves to the use of brown or other dark-colored soaps, merely on account of the albumen, even if in point of quality they should mark an improvement.

Now, as to the improved quality, there are ways and means of effecting this by the aid of albumen. A correctly selected preparation of albumen enhances the smooth, delicate effect of a toilet soap and causes an eminently agreeable feeling of the skin. The effect on the skin is indeed good and the lather is more permanent and appears richer. The use of albumen is therefore especially to be recommended for shaving soaps, medicated and various cosmetic soaps, as almond meal soap, complexion soap, freckle soap, etc. Surely such a soap would serve a far better purpose, even if slightly dark, than many of the miserable cocoanut oil soaps which possibly were white at first, but too often turn

rancid before they are taken out of the wrapper, proudly labeled "Lily Milk" or what not.

According to the particular kind of albumen employed, it is first dissolved by small additions of alkali, saponified or emulsified, and in this condition it is added to the soap before milling. As already stated, all forms of albumen in question appear on the market in form of a powder only, and it is possible, to some extent, to use them in this form without previous treatment, by adding the powder to the soap while the latter is still hot and fluid, by means of crutching apparatus. Another method is to add the properly prepared albumen to the soap during the milling process; in the case however, a sufficient degree of dryness is requisite as otherwise a smeary product will result, and an absolutely even distribution of the albumen is of the greatest importance if faulty soap is to be avoided.

In medicated soaps the color is usually of no importance and depends chiefly on the medicament used; in these therefore there is nothing to prevent the employment of a fair per cent. of albumen, and the latter is to be recommended especially in all cases where the medicament is compatible with the albumen.

There is certainly some degree of usefulness in albuminous preparations in our branch of industry.

An Idea About Shaving Soap.

Edmund White has proposed a new kind of preparation for shaving. He has written of it in the St. Thomas' Hospital Gazette:

"A little consideration will show that in shaving it is necessary to support the hairs, so that the razor may cut through them transversely, and at the same time to moisten or lubricate the surface of the skin so that the outer layers of the epidermis may not be too freely removed. . . . Numerous trials were necessary in order to arrive at satisfactory results . . . and, finally, an emulsion of paraffin wax, melting at 55° C., was adopted. This was prepared with 25 per cent. of wax and 2 per cent. of tragacanth, the wax being melted and mixed with the tragacanth previously made into a mucilage with some of the water. The addition of a little stearin or lard renders the emulsification of the wax easier, for some reason which cannot readily be explained, while about 10 per cent. of alcohol makes the preparation more agreeable to use. The fatty odor of the preparation may be covered by the addition of a half to 1 per cent. of lavender oil, and the finished product then appears as a thick white cream. In use a small quantity is rubbed over the area to be shaved and the razor immediately applied. As the water in the emulsion evaporates, the particles of wax previously distributed in the emulsion become coherent and fill up the depressions in the surface of the skin from which the hairs arise, thus forming a mechanical support during the passage of the razor. The quantity required is very small, one ounce being sufficient for shaving the face about six times."

Detection of Sodium Silicate in Soap.

Ahmed Hussein (Journ. Pharm. Chem.) says that treatment of the dry alcohol-insoluble residue of soap with water for the detection of sodium silicate (as generally directed in text-books), is found unsatisfactory; the process of drying renders the greater part of the silica insoluble in aqueous solution. The following method is recommended: A weighed quantity of rasped soap is dissolved in alcohol and filtered through a tared filter; the filter is then dried and weighed. A portion of the residue is then warmed with a little sodium carbonate solution, filtered, acidified with hydrochloric acid and made faintly alkaline with ammonia. If sodium silicate be present, the characteristic silica precipitate will be obtained.

Adulteration of Beeswax.

Researches on wax standards revealed the fact that saponification number of wax and similar other difficultly saponifiable compounds cannot be accurately determined in one hour's treatment of the sample with an alkali. Indeed, certain samples of pure wax required fully a six hour boiling with the alkali. The value thus obtained was found to approximate 100, and was suggested as the saponification number standard. Carrying out the saponification potass.-hydroxide is to be preferred to sodium hydroxide. A small quantity of the sample dissolved in 96 per cent. alcohol is boiled with half normal potass-hydroxide solution in alcohol, under a reflux condenser for three hours. The amount of alkali consumed is determined by titration with half normal HCl, using phenolphthalein.—(R. Cohn in Zt. f. Off. Chem.)

A New Floating Soap.

A good method of producing a consistent, non-porous floating soap, capable of being pressed, has (according to Les Corps Gras Industriels) long been sought for, the present mode of preparation being by inserting in the interior of the cakes or tablets light bodies, such as cork, wood, papier mache, etc., or the frothy layer from glycerine soap. Without, however, taking into account the complicated nature of their manufacture, these soaps have the disadvantage of being proportionately too large.

With the object of solving this problem, Messrs. Zimmermann & Stoehr have devised a process for the production of a floating soap that is not porous, does not possess a core of inert material, and is capable of being easily stamped into tablets for toilet soaps.

The process of manufacture is as follows: One part of resin or wax is melted up in a flat pan until it begins to effervesce, when it is immediately removed from the fire and rapidly mixed in a state of ebullition with an equal quantity by weight of caustic soda lye of 42° B. previously heated to 62° C. The lye is run into the resin in a thin stream with constant stirring until the resinous mass assumes a granular appearance; it is then allowed to rest.

Meanwhile 3 parts by weight of cocoanut oil are heated to 81° C., and an equal weight of caustic soda lye of 36° B. heated to 62° C. stirred in, agitation being continued until saponification takes place. The alkalined resin is now crutched into the hot liquid soap: should the mass lose cohesion during this process or should a dry layer form on the surface, water is run gently in until the whole is uniform again.

Gentle boiling and crutching is continued for one hour and then the fire is drawn; the whole is then run into flat frames to stand for 12 hours in a cool place. During this time the product coagulates, and a thin resinous cake forms on the surface; after removal from the frame this resinous cake is separated from the lower gelatinous mass, cut into strips, dried and preserved at a temperature of 36° C., then at the end of 24 hours this resinous cake can be used for the manufacture of floating soaps, though it is better if kept somewhat longer.

The residue after removal of the top resinous layer is again melted up over a gentle fire and immediately it shows signs of boiling caustic soda lye of the 36° B. heated to 62° C. is crutched slowly in. Should lumps form and the mass remain thick it is thinned out with hot water. Then when a slight effervescence commences the fire is allowed to go out and the mixture run into flat frames to rest as before; a new resinous cake will have formed at the end of 12 hours which is treated as previously described.

For use in making floating soaps the resinous cake is gently melted and run slowly into the hot liquid soaps, being constantly stirred, to insure intimate mixing.

For a good household floating soap, which can be stamped after 8 to 10 days keeping, the proportions recommended are:

Cocoanut oil 50%
Beef tallow 50%

1 part by weight.

Caustic Soda Lye of.....36° B.
Previously heated to.....62° C.

1 part by weight.

Resinous cake.....0.2 parts by weight.

It is understood that the process is applicable for household as well as toilet soaps.

Similar results are obtained if the order of succession of the different operations is modified, the chief point of the invention being the method of saponification of the substances employed.

The Talc Situation.

The Oil, Paint & Drug Reporter says: Following the advance in prices for the domestic prime white grades of fine milled talc early in February, the market has retained its firm tone, owing to the scarcity of spot supplies which is being keenly felt at the present time. Buyers have allowed their stocks to dwindle to such an extent that it has compelled them to replenish their supplies, and as a result firms here are unable to fill the orders which have accumulated and represent a fair volume. Orders are now only being booked subject to no definite specified time for delivery, because of the uncertainty of the arrival of goods in transit. Several carload lots were shipped from mills in the South a month ago and have not as yet arrived, due, in part, to floods and other obstacles in the way of traffic. Orders for parcels for near arrival are only being guaranteed and booked, but, owing to the limited supply coming forward, business is being held in check. The demand throughout the spring for all grades of talc was, on the whole, very unsatisfactory, but during the past sixty days the sales in the aggregate have increased, and the total transactions since January 1 now compare favorably with those for the same time last year.

There has been less desire on the part of most buyers to trade in the cheaper grades of talc, which have been, and are, in abundance here. As a result of this prices for the latter grades have been more or less nominal, and the market neglected. The finer grades of foreign are also receiving increased attention and good sales for shipment to the country have been and are being made. Several carload lots of domestic prime white goods, which were sold by sample, did not compare favorably with the sample in quality nor milling, and rejections are becoming more numerous. The demand for the white, uniform quality and milled goods is steadily on the increase, but the output is limited, as the mines from which these grades are being worked represent only a small percentage of the total operated, the principal product being off colored and coarse milled goods. The supply of the latter has been abundant, and in many instances consignments which were forwarded here had to be marketed at prices which showed a loss to the shippers. It is claimed that new mines are being opened in the South and in the West, but in most cases theproduct is of low grade and has been shipped to consuming markets, adding an additional surplus to the large stocks held at various consuming centers.

Wood Ashes.

Wood ashes vary greatly. The Florida Department of Agriculture reports that there are many tons of ashes used as a fertilizer in that state. When they can be purchased at a price comparable with their actual value they are doubtless a most valuable source of potash. The average price of these goods is, however, far in excess of their value. Potash obtained from this source generally costs much more than from other reliable sources—sulphate or muriate of potash, kainit or sylvinite. Samples of hickory, maple, palmetto and other so-called hardwood ashes show from 0.57 to 4.24 per cent. of potash worth from $0.62 to $4.66 per ton at seaports. The average shows 2.56 per cent. of potash. Guarantees are generally 2 to 8 per cent potash. The minimum is the actual guarantee. The best unleached ashes contain but 8 per cent.; ordinarily less than 5 per cent.

The Chemist In The Factory.

The great shortcoming of the English manufacturer as compared, for example, with the American, appears to consist in at least partial inability to appreciate the possibilities of a new idea, more particularly if that idea should happen to be based largely on theoretical considerations. Cases frequently occur in which, from this cause, valuable opportunities of making important advances in British industry are thrown away, only to be picked up by our friends across the Atlantic and ultimately applied to their own purposes with eminent success. In other words, there is still a great deal too much of a rather narrow utilitarian spirit about the English manufacturers' attitude towards anything "scientific," and too little regard to the *future* possibilities of any new idea.

It may be not altogether out of place to try and suggest, in a general way, the spirit which should govern the relations existing between a manufacturer and a chemist, whom we must assume at this late date he has in his employ. It is thought that only when some such spirit does exist can the most be made of the opportunities for progress which the employment of a chemist affords.

The position of a chemist in a factory is, in many ways, a difficult one to fulfil satisfactorily. The work is many sided, and in some directions beset by more than ordinary difficulties. The whole field cannot be included under the convenient term "chemistry;" indeed at times that may occupy only a comparatively small proportion of the chemist's attention. Hence the supreme importance of selecting a man who is really qualified for the post, by virtue of his possessing not only a good knowledge of his subject and a wide experience of practical work, but more particularly a mind that has been trained to the task of continually attacking and following out new problems and new lines of work. The sounder his knowledge of the main principles of engineering, both mechanical and electrical, the better, for in seeking to apply results obtained in the laboratory to factory practice he is bound to come in contact with many problems to the satisfactory solution of which such knowledge is indispensable.

One of the first essentials to the success of the operations of the chemist is that he should be allowed unrestricted access to all sources of information which may be of the slightest use to him in his work, and that complete confidence should be placed in him. For a chemist to know that certain secrets—which often possess little of the element of secrecy as far as others are concerned—are being jealously guarded from him, is for him to lose interest in his work, because he knows that it is absolutely impossible for him to form a correct judgment on any matter unless he has all the known facts at his disposal. Herein lies one of the great points of difference between the empirical knowledge of the ordinary factory worker, gained by a more or less extensive experience in the factory, and the trained systematic methods of the chemist. The former may attempt to reason from observation to probability, but his conclusions are as often as not unreliable because he has failed to take into account more than one or two facts or sets of facts.

Coming now to particular duties, it should, of course, fall within the province of the chemist to examine and control the quality of all raw material, so far as that be possible, both in order to ensure that standards are being adhered to, and in order to avoid those difficulties in manufacture which arise frequently from sudden variations in the quality. The amount of work comprised in this section alone is considerable, and in many cases it will probably be found necessary to employ a junior for the purpose of carrying out the actual analyses involved, if the chemist is to be given proper scope for other work.

The chemist should follow the raw material through all necessary intermediate stages which should be under his supervision, together with the small scale experimental plant which is essential to the satisfactory working of most laboratories for a score of purposes, which if carried out in the works itself mean dislocation, waste of material and many other obvious difficulties.

From this point onwards the chemist's supervision of the processes becomes, in a sense, more casual, though no point which is likely at all to influence the final result detrimentally should escape his attention. Finally the chemist should carefully test and record the physical and certain of the more important chemical characteristics of the various qualities of finished material, since only

in this way will he be able to deeide in any given instanee what modifieation of its treatment is necessary in order to enhance a particular eharacteristic, or to introduee others.

To the scheme of work roughly sketched above must be added, what will be found to absorb no mean proportion of the ehemist's total energies, the thousand and one problems that arise from time to time in the works, either in the actual processes themselves or in subsidiary departments. Faeilities should undoubtedly be given for the carrying out of researeh work, both of a purely teehnieal nature, and of a kind not neeessarily direeted towards any immediate praetieal applieation, but earried on ehiefly for the purpose of gaining a more intimate aequaintance with the nature and properties of the chemieal eompounds that have to be dealt with. For it is, after all, to this latter type of researeh that some of the greatest advanees in industry are due—witness coal-tar, alizarin and indigo.

Throughout the whole of this range of work the chemist should be given a free hand to arrange and carry through his own experiments, and suffieient assistanee should be given to him, both in information and in actual help in the laboratory and on the works, to enable him to devote his time and thought more to the devising and supervision of sueh experiments than to the many detailed manipulations involved in earrying them through.

The chemist will regard eaeh problem as it arises as the starting-point of an investigation whieh has for its objeet the settling of all similar problems that may oeeur in the future, and not merely as a special isolated difficulty to be got over at the moment. Therefore, although palliatives may be suggested on the spot, the final result of sueh an investigation is not to be expeeted too hurriedly. The time spent upon it is well-spent if the results are of permanent and not merely of temporary applieation.

In eonelusion mueh good is to be aehieved by ensuring that the chemist shall feel that his efforts are well-seeonded, and any authority vested in him thoroughly backed up. The manufaeturer may in that case be confident of reciproeal feelings.

The Commercial Conscience.

We have heard in reeent years a great deal about the evils eoneealed under the trade term "commercial." A Philadelphia eourt has defined for us "eommercial" turpentine; in the eonventions of the National Paint, Oil and Varnish Association we have learned to know the "commercial" gallon can and the "commereial" lead keg in all their bewitehing modesty; several States have enacted laws against "commercial" linseed oil and "eommercial" food products of various sorts; eertain paragraphs of the last tariff law also ealled our attention to "commereial" flour, made "eommereial" by the addition of more or less liberal proportions of finely ground barytes. But back of all these "commercial" perjuries is the "eommercial" conseienee, whieh permits otherwise upright people to perpetrate them.

Is there any differenee, and if so, what difference, between a soeial or personal obliquity and a eorrupt business praetiee? Is the man who sands your sugar less guilty of eheating or lying, or of a more venial kind of iniquity than he that picks your poeket or lies to you verbally regarding a matter of faet? Is the man who sells you neutral oil for linseed oil or barytes for white lead justified, and he that sells you a gold briek or passes you a worthless eheck eondemned? Though we confess our utter inability to distinguish between the kinds of guilt, it would seem that there is a well reeognized "eommereial" distinetion.

Men more tender of personal eonseienee than the writer; men who would under no eireumstanees violate their private eode of morals—whieh is far more partieular and eomprehensive in detail than his; men who would under no eircumstanees deseerate the Sabbath, eneourage gambling in its mildest form, eountenanee the liquor traffie, or tolerate in themselves the most venial viees, will yet praetice and defend what we eannot help regarding as the grossest forms of "eommercial" immorality.

To our mind the eode is easy and simple to state or to eomprehend: it is summed up in the single word "honesty." Whatever is not honest in eommeree, equally as in private life, is dishonest. It is extremely simple, but a touehstone of marvelous aeeuraey. Is it honest to sell "eommereial" turpentine, "eommereial" linseed oil, "eommereial pure" white lead, "eommereial pure" ready-mixed paint? We don't believe it is, and unless our code of ethies should be transformed by a ehanged point of view, we should not do it, were we engaged in the paint business. And this, notwithstanding the fact that we are eonvineed that in the ease of lead and paints the "eommercial pure" products are often superior to the teehnieally pure goods.

Any one has a moral right, if he believes it on suffieient grounds, to assert and maintain that mud and water properly eombined, make better paint than old Duteh process white lead and aged linseed oil; but he has no moral justifieation for proelaiming, therefore, that such paint aetually is pure white lead and linseed oil, or even unqualified white lead. On the other hand, so long as he does not transgress the limits of truth, he is not bound in ethies to proclaim the eomposition of his superior paint. A demonstration of the elaim is all that the buyer has right or need to demand.—Drugs, Oils & Paints.

Scented Waters—Non-Alcoholic Medicinal Preparations.

In the matter of protests of Lehn & Fink et al. against the assessment of duty by the collector of customs at the port of New York, the following is the report by General Appraiser Sharretts:

These protests cover scented waters, such as orange-flower water, rose water, cherry water, laurel water, etc., upon which duty was assessed at the rate of 25 per cent. ad valorem under the provision of paragraph 68 of non-alcoholic medicinal preparations, the importers claiming the same to be free of duty under paragraph 614, or, alternatively, at one-fourth of 1 per cent. per pound and 10 per cent. ad valorem under paragraph 20, or at 10 or 20 per cent. ad valorem under Section 6 of the Tariff Act of 1897.

In G. A. 1042 and G. A. 5653 the board held orange flower water to be a medicinal preparation and to be dutiable as such. The Circuit Court for the Southern District of New York upon review of G. A. 5653 (supra) affirmed the same.

On the authority of said decisions, we hold the merchandise now before us to be dutiable at the rate of 25 per cent. ad valorem under paragraph 68, as assessed, and affirm the collector's decision in each case, the protests being overruled.

Fuller's Earth In Oil Refining.

The use of fuller's earth in the refining of oils was the discovery of an American well known in the packing-house industry, one of the brightest men in the trade then and to-day. Yet, strange to say, American chemists, both in and out of the food trade field, have apparently neglected to carry this discovery to a higher degree of development and usefulness, and it has remained for an Englishman to show the real possibility of this "common clay" when properly handled. Even he has not gone as far as he is satisfied he can go, and he is anxious to secure the co-operation of American investigators, especially in the cotton oil field. This man is Henry Newson Garrett of Bath, England. In a recent letter to The National Provisioner Mr. Garrett says:

"If some of your oil refining experts would co-operate with me in trying to improve fuller's earth, I believe we should succeed in producing something superior to anything at present on the market. I have no means of obtaining such cotton oils as are operated in America, and if I could get it I don't know how to operate it so as to obtain the best results.

"Your experts are jealous lest any one should know as much as they know. And until this state of things is knocked down, and until more brains are used on fuller's earth than have ever yet been expended, the present enormous waste of the earth will continue. I therefore invite correspondence on the subject.

"H. N. GARRETT."

In a recent review of this fuller's earth question, discussing the part Mr. Garrett has had in its development, an English publication says:

It is in the neighborhood of Bath that large supplies of fuller's earth are found; and it is here that its scientific preparation for effective use in the arts and industries has been brought to such perfection by the genius and enterprise of Mr. Henry Newson Garrett.

This material is, of course, no novelty in itself, but, on the contrary, as everyone knows, one whose use is of such venerable antiquity that we fail to trace its earliest employment. The singular circumstance about it is that through all these thousands of years it should, until recently, have been used in what we can only describe as such a barbaric form—that is, as a mere clay. It was simply dug up, dried or ground into powder for oil refining.

Mr. Garrett may be said to have revolutionized all this. When he came into possession of the Midford works, on the winding up of the company which had previously carried them on with but poor success, he immediately inaugurated a new era. Endowed with faculties which had already ensured for him large prosperity in connection with his father's agricultural machine factory at Leiston, Suffolk, he was not slow to perceive the advantage which would accrue to large users of fuller's earth if they could be certain of obtaining it pure instead of paying for and receiving earth which is, either naturally or purposely, composed largely of sand, clay and other dross. He therefore set himself to work to bring about this result, and during several years, with the help of experts, has brought out several combinations of fuller's earth in its natural and crude condition; so that the purposes to which this mineral can be applied are being greatly extended, especially in refining oils.

It is difficult to exaggerate the importance of the last named advantage which Mr. Garrett's enterprise has secured for oil refiners, both in the matter of economical production and the improved quality of the oils produced by this process. If nothing else had resulted from Mr. Garrett's control of the Midford works it would itself have earned for him the thanks of a large section of the community; but this is only one of the many services which he has been able to render to the industries in which fuller's earth is more or less employed.

Nature's Wash Tub.

The "Old Faithful" geyser, which stands in the United States National Park, in the Yellowstone, is Nature's self-acting natural power, washing machine.

Gen. Sheridan's troops were the first to utilize the geyser as a laundry-maid. "Old Faithful" erupts every eighty minutes with the regularity of clockwork, and all the soldiers had to do was to strip, throw in their soiled linen—woolen goods are torn to pieces by the geyser—light their pipes, and wait.

No sooner had the geyser begun to work than the clothes were tossed about as if a score of expert washerwomen were battling with them.

Finally, they were thrown high into the air, and the soldiers caught them as they descended. The clothes, principally shirts and vests, were as white as snow, and rinsed almost dry.

A traveler who visited the Yellowstone some time ago threw in his shirt immediately after "Old Faithful" had erupted, and it disappeared down the geyser's gullet into the bowels of the earth.

Thinking that he had lost his shirt forever, he buttoned his coat over his bare chest and went to sleep.

An hour later he was awakened by something falling upon his face, and, starting up, discovered that it was his missing undergarment, as clean and as fresh as when he first put it on. "Old Faithful," the one and only natural washing machine in the world, had not belied its name.—Pearson's Weekly.

Identification of Fats and Oils In Soaps.

The identification of the various fats and oils when made up into soap is a problem that frequently presents many difficulties; when it is merely desired to prove that the soap under examination has been made from a specified fat it is a relatively easy matter, as should the fatty acids from the soap not give the correct constants on being tested it proves that some other fat or oil has been used instead or as well; similarly in the case of single oils or fats; but it is in the presence of two or more fats that the question becomes more complicated.

In the first place the nature of the soap will afford an indication of the fats to be looked for; thus, in toilet soaps made by the cold process cocoanut oil will form the basis with probably an addition of tallow; in soft soaps linseed oil or oleine are almost invariably employed; also in the case of household soaps the price will frequently give some clue in the absence of a large amount of filling, and will very often lead to a decision being arrived at between two possibilities when the physical and chemical tests are not sufficiently conclusive.

After liberation of the fatty acids from the soap in the usual way by means of acid, the appearance will be noted, and in many cases a few simple tests will soon place the origin of the fat beyond doubt. For instance, if the fatty acids are hard, light in color, and have a high melting point the fatty matters probably consist of tallow; if somewhat softer, with an iodine value of about 188 or 120, of cotton seed oil, which may be confirmed by giving Halphen's reaction. A mixture of these two fats would yield fatty acids with a similar melting point to the fatty acids from bone fat, but would be distinguished therefrom by having a higher iodine value and also the above mentioned color reaction for cotton seed oil would show whether any had been used.

Now, in household soaps resin in varying proportions from 10 to 20 per cent. is frequently employed, and the amount of divergence such a proportion will give rise to in the constants is sufficient to render deductions therefrom quite misleading. As an example, the melting point will be altered, for although the resin has a melting point of about 72° C. it frequently lowers that of the fatty acids liberated from soaps; further, the iodine value of resin fluctuates according to its origin, etc., between such wide limits that no reliable conclusions can be drawn from this test when it is present in the fatty acids in any appreciable amount; similarly, though to a less extent, with the saponification value. When, therefore, the fatty acids are found to contain resin acids, which is most readily done by means of the Liebermann-Storch test, before proceeding to apply the usual tests for the identification of the other fatty matters the resin acids must be removed. It may be mentioned that the above test for resin consists of gently warming one or two grams of the fatty acids under examination with acetic anhydride, cooling, and drawing off the lower liquid and adding one drop of concentrated sulphuric acid; in the presence of resin acids a violet coloration is immediately produced; this coloration is, however, fugitive.

To separate the resin acids from the fatty acids use is made of the Twitchell process of determining resin by treating the fatty acids dissolved in absolute alcohol with dry hydrochloric acid gas. The esters thus formed are subsequently titrated in alcoholic-ether solution with standard alkali, when the resin acids immediately combine to form soaps; then on evaporating the solution they can be separated from the fatty esters by taking up the latter with ether and washing out the resin soaps with water. The ether is then driven off, the esters saponified with potash and the fatty acids set free by the addition of acid can then be examined in the ordinary way.

For the identification of oils and fats from the fatty acids from soaps the most useful tests are the melting point, the iodine value, the saponification value and one or two individual tests for certain oils such as for cotton seed oil and sesame oil. More definite conclusions can be arrived at by taking these tests in conjunction than by each separately, especially in the case of mixtures. Cocoanut oil, together with palm kernel oil—from which

i tis practically impossible to distinguish it in soaps—will be indicated by a high saponification value (250 mg. KOH) and low iodine value (6 to 8 per cent.); cotton seed oil by a high iodine value (118 to 120 per cent.) and a high melting point (abont 38° C.); tallow by a high melting point (42 to 45 per cent.) and low iodine value (40 to 50 per cent.). Bone fat has a somewhat lower melting point and higher iodine value. The fatty acids from eastor oil are liquid at the ordinary temperature, and as it is never found by itself, its chief use being to assist in the transparency of toilet soaps, it will tend to reduce the melting point of the fatty acids and also the saponification value. Fatty acids from olive oil and arachis oil give constants approximating very closely to one another, and when mixed with another oil such a cocoanut oil or palm kernel oil, as is very frequently the case in soaps placed on the market under the name of Marseilles soap, it is a very difficult matter to pronounce definitely whether a soap has been made with one or the other, the chief difference between them is in the iodine value, but an olive oil with a high iodine value gives the same figure as an arachis oil with a low iodine value. Linseed oil will be readily recognized by its exceptionally high iodine value.—Oils, Colours & Drysalteries.

Cottonseed Oil In Lard.

In reviewing a series of tests made to determine the best method for discovering the presence of foreign fats, usually cottonseed oil, in lard, the Bureau of Chemistry of the United States Department of Agriculture, issues a bulletin containing the following:

"A great number of tests for cottonseed oil mixed with lard have been submitted, but practically without exception they have proved valueless. The two tests on which the chemist has chiefly based his decision as to the appearance of cottonseed oil in lard are the Bechi reaction, due to the reduction of silver nitrate, and the Halphen test, a crimson color formed when the cottonseed oil is heated with a little sulphur dissolved in carbon bisulphid. But the reactions in these tests appear precisely the same in the pure lard made from hogs fed on cottonseed meal and in lard adulterated with a small amount of cottonseed oil, and in so far the tests are failures.

Now, as a matter of fact, there is little lard made from hogs fed on cottonseed meal. But it is indisputable that some cottonseed meal is fed to hogs, and some of the lard may get on the market, and Mr. Elton Fulmer, of the Washington Agricultural Experiment Station, who has conducted extensive experiments in feeding hogs on the meal, has shown that pure lard from hogs so fed will give as strong tests for cottonseed oil as lard mixed with 15 per cent. of the oil itself. So although there is little likelihood that lard from hogs fed on cottonseed meal would be involved in any litigation, nevertheless a doubt is cast upon these ordinary tests which makes them of very little value in legal proceedings.

"Recently a study of the non-fatty substances which occur in the lard and cottonseed oil was made by Bomer, with the hope of finding a method of detecting such adulterations with certainty, and he has developed a very satisfactory and exceedingly delicate process for determining the presence of any vegetable fat in lard. This method depends on the fact long known that there is present in all vegetable fats, but not in pure animal fats, a small amount of a certain alcohol, phytoserol, which has a definite crystalline form, and a definite melting point. These crystals are in general described as 'needle shaped,' and at the end form an agle of 108 degrees. On the other hand, in animal fats there occurs another alcohol, cholesterol, which has a different melting point and an entirely distinct crystalline form, having the appearance of thin rhombic plates. Mixtures of phytosterol and cholesterol produce crystals entirely different from either one of these, being telescopic in shape and easily recognized under the microscope. These peculiar telescopic forms of crystals are obtained with as little as 12 per cent. of phytosterol and 88 per cent. of cholesterol, or about 6 per cent. of cottonseed oil and 94 per cent. of lard.

"Smaller amounts of cottonseed oil can be recognized under the microscope by the form of the crystals, but it is not safe to depend on the microscope where so little of the oil is used. The melting point of the acetates must be used for the detection of from 2 to 4 per cent. of the cottonseed oil. These are prepared by heating the alcohols with acetic anhydride and crystallizing. Cholesterol acetate from pure lard has a melting point of 113° to 114° C., while the alcohol from lard containing 116° C., and 4 per cent. raises it from 118° to 119° C.

"Thus a method is formulated by which small amounts of cottonseed oil may be detected, and which possesses the great advantage over other tests that it has a scientific basis and is not affected by methods of manufacture nor accidental impurities. The question is at once raised, however, on account of the peculiar results in all other tests when lard from hogs fed on cottonseed meal is tried, whether phytosterol might not pass into the animal fat and thus vitiate the method.

"Now, it is a well-established fact that no phytosterol, but only cholesterol, occurs in animal fats; therefore none of the phytosterol which is in plants enters into the fat of the animal which feeds upon them. For example, the hog fed on corn or other cereals takes considerable quantities of phytosterol into its digestive tract, but there is no record of phytosterol being found in the lard. As most plants contain phytosterol and most animals eat plants, the failure to find phytosterol in nu-

merous tests for it produces a high probability that phytosterol of plants does not pass into the fat of animals. So we should not expect the phytosterol of cotton seed meal to act differently.

"But in order to settle so important a matter experimentally, a number of samples of lard from hogs fed on cottonseed meal at the Washington Experiment Station was obtained. These lards all gave the usual color tests that would be given by products containing added cottonseed oil, varying only in degree, as though from 1 to 15 per cent. of cottonseed oil were present. Accordingly, as far as these ordinary tests showed, these lards were to be considered adulterated with cottonseed oil. But the examination of the alcohols present gave a very different result. The process of crystallization was like that of other pure lard, and the microscopic examination showed the crystals to be cholesterol.

"The more delicate test for the presence of the phytosterol, that of the melting point of the acetate, was also applied to all the sample of pure lard from cotton seed fed hogs, and the melting point was found to be from 113° to 114° C. The cholesterol from tallow gave an aceate melting at 114° C., and the cholesterol from gall stones an acetate melting at 114° C. This shows that the alcohol of these lards is pure cholesterol, and that this method enables us to distinguish between adulterated lards and pure lards which give the cottonseed reactions because of feeding cottonseed meal.

"Another and perhaps more important feature of the value of this test, is that it may be used in detecting cottonseed oil in lard not affected by feeding on cottonseed meal, but in which other tests for the oil fail for another reason. This reason is that cottonseed oil after being heated to about 250° C. for twenty minutes does not give any of its characteristic reactions, so that if such an oil were used in adulterating lard it would not be detected by the ordinary tests. But heating does not affect the phytosterol in the oil. Crystals from a lard mixed with 10 per cent. of a heated cottonseed oil did not respond to either the Bechi or the Halphen tests, but there is no difficulty in detecting the adulteration by the new method, as the same peculiar telescopic crystals are present. The melting point of the acetate was also 120 degrees C., showing conclusively the presence of considerable quantities of phytosterol.

"Thus, it is seen that this method enables the chemist to detect cottonseed oil in whatever form it may be present, and that it is not affected by any method of feeding or any process of manufacture."

The Best Man.

A man who hollers down a well,
About the goods he has to sell,
Won't reap as many shining dollars
As the man who climbs a tree and hollers.
—Queen Quality Topics.

The Quantitative Determination of Ammonia, Ammonium Salts and Caseine In Soaps.

Regarding the quantitative determination of ammonia and ammonium salts little or nothing has been published; in text-books the determination of these compounds is either not mentioned, or it is stated that they should be estimated according to the rules of quantitative analysis. In this case an accurately weighed out portion of the soap to be tested would be dissolved in water in a large flask, and after the addition of caustic soda the ammonia would be distilled off and collected in a certain quantity of standard acid, the uncombined acid being subsequently titrated back with standard potash. The following process accordingly may be of interest to soap chemists and manufacturers, and as the determination of caseine is analogous with that of ammonia, so this much recommended addition for binding the free alkali in soaps may be mentioned at the same time.

The so-called ammonia-turpentine soaps are prepared either by the addition of free ammonia, or better of sal-ammoniac or sulphate of ammonia, and it may be desired to determine the amount of free or combined ammonia or both. If the soap is dissolved in too much water and only a little caustic soda or potash added, the liquid will be found to froth so strongly on distilling that some alkali is unavoidably carried over by the soap bubbles. This can be obviated by using less water to dissolve the soap, 50 cc. at the most, and by adding so much lye that the soap separates out as a curd. If on the other hand the concentrated lye is poured over the soap in its original state without dissolving in water the danger arises that by prolonged distillation caustic alkali may pass over. This fact has been proved by distilling chemically pure soda lye of 40° B. by itself; it has also been observed in places where solid caustic alkalies are prepared that an alkaline taste is apparent, a proof of the volatilizing of alkalies on increasing concentration.

To avoid this the determination of free and also combined ammonia in soft and hard soaps can be carried out as follows:

About 5 grains of the soap are ground up in a mortar with a concentrated solution of barium chloride, and then filtered. The soap remains behind as an insoluble barium soap, whilst the ammonia, ammonium salts and excess of barium chloride solution pass through. In this way the unavoidable dissociation of the soap in water is retarded and the formation of free caustic alkali prevented. The washing is done with a concentrated salt solution, the filter also should be previously moistened with salt solution to retain any turpentine oil. The filtrate is brought into a litre flask, diluted with water to about 300 cc., the flask is then connected with an inclined Liebig condenser, to the other end of

which is affixed a piece of tubing dipping into hydrochloric acid. A fairly large breaker can be used for holding the acid, consisting of 100 cc. of 1-10 normal hydrochloric acid. After ascertaining that all the joints are tight the contents of the flask are heated for about an hour, with a small flame at first. The volatile ammonia passes over with the steam and combines with the acid. As an indicator tincture of cochineal is perhaps best; it may be made by digesting 10 grams of cochineal with 30 grams of spirit and 70 grams of water at 50° C. After standing several days the liquid can be filtered off the sediment. The red color of this tincture is turned violet by ammonia; should this occur during distillation a further 5 0cc. of the standard acid must be added. After an hour the connecting tube is removed and the liquid coming over tested with red litmus paper; if an alkaline reaction is given, distillation must be continued further, until all ammonia is driven off, the connecting tube is then washed with water, the distillate allowed to eool, and then so much 1-10 normal potash solution added until the violet color appears. The number of ee. of 1-10 normal hydrochloric acid multiplied by 0.0017 gives the amount of ammonia.

For determining the ammonium salts the soap is separated in a similar way, and sufficient caustic soda solution added to the filtrate to render it strongly alkaline. The ammonia thus set free is then distilled off. For ammonium chloride each cc. of 1-10 normal acid used is multiplied by 0.00535 and for ammonium sulphate by 0.0066.

To estimate the amount of turpentine oil, the soap is dissolved in water in a flask, excess of sulphuric acid added and distilled for about an hour. The distillate is caught in a graduated cylinder, when the amount of turpentine oil which collects on the top can be read off.

The quantitative determination of caseine depends upon the conversion of nitrogen contained in the albumen molecule into ammonia. An accurately weighed out quantity of finely divided soap, about 3 grams, is heated in a round-bottomed flask with about 15 cc. of fuming sulphuric acid; after two hours the blackened mass begins to turn brownish, three or four crystals of potassium permanganate are then added singly; with each addition the liquid in the flask becomes lighter. After another hour's heating more permanganate is added; this salt gives up oxygen, which oxidizes the last traces of carbon into carbonic acid. When the liquid is quite light it is allowed to cool, then poured into a litre flask containing water made strongly alkaline with caustic soda and distilled as described above. The percentage of nitrogen is found by multiplying the number of cc. of 1-10 normal acid neutralized by 0.0014, and to convert this into caseine it must be multiplied by 6.25.

A controlling determination can be carried out by boiling the soaps with strong caustic potash lye, filtering through glass-wool, washing with the potash solution and decomposing with fuming sulphuric acid. Caseine dissolves in the lye to form an albuminate, and is then converted into ammonium sulphate by the sulphuric acid.—Der Seifenfabrikant.

"The Thinking Season."

It is a good and profitable thing to utilize one's thinking powers at all seasons of the year; but during the vacation time, when the grasshopper becomes a physical burden to the most vigorous of us, it is well to exercise the mental at the expense of the physical faculties.

The summer time, when the thermometer registers "ninety in the shade," is a favorable season for counting the cost and estimating the comparative "worth while" of things in general. Wealth is a good thing to have handy, especially during the summer resort days, but is it the best thing we can acquire by the exercise of our physical powers and mental faculties? Is it to be compared in net results ao a quiet conscience, refreshing sleep, a good digestion, the physical well-being of a vigorous old age? It is worth while striking some such balance now and then, for life itself is a mathematical equation, a constant balancing of one choice against another. We must pay in some form or other for everything we obtain. For ill-gotten wealth, in reduced self-respect, in loss of the comfortable feeling that we are worthy members of the great human family, in the jealousy, distrust and suspicion of the meaner sort, in the contempt and ostracism of nobler minds. For wealth fairly acquired we pay in time which perhaps might have been more profitably expended in the acquirement of culture, wisdom, the philosophic spirit. Nothing in this world is free, and the acquirement of a surplus of anything is mere accumulation for accumulation's sake; a form of mild imbecility like that of the collector of old violins, who is ignorant of music, or of ancient books the language of which he does not understand. It is the same instinct that leads the jackdaw to collect bright pebbles, trinkets and bits of glass.

Americans, because of their modern environment, are peculiarly prone to this mania. They exhaust their faculties, mental and physical, in a breathless struggle for surplus wealth, which, when they have it, they do not value because they are untrained in its use. There are nowhere in the world more wealthy men and families, there is nowhere in the world more extravagant and bootless use made of wealth. We spend our best years in piling up a plentitude of money, and when acquired are too old to learn the proper, profitable and pleasurable ways of utilizing great wealth.

Contrast our custom with that of the French, who, when all is said on both sides, know better than any other people on earth how to enjoy life and how to get the utmost value from every faculty and every talent. The Frenchman of middle age, when he has secured a "fortune" of one or two hundred thousand francs, buys himself a "chateau" within easy reach of some large city and settles down with him family to enjoy his ease and live upon his income. His children are educated or "cultivated" according to their station in life, married off as advantageously as may be, and the old couple continue to enjoy their home, cultivate their acre or two of ground, follow the literature and progress of the day, and finally die as peacefully and harmlessly as they lived. Retiring from active service while all his powers are still active, he has still time to learn how to live in his changed conditions, and because of him and his kind France is still and will long be the chief fountain of culture, of art, of ideas for the whole world. It is a cheerful nation, an adaptable nation, a happy nation, and all-in-all one of the most successful peoples of all time.

Among us we witness the pitiable spectacle of men who have accumulated hundreds of millions still in harness at three score and ten, as keen for the dollar discount, as feverish for the extra dividend as in the days when an addition ten cents meant to them an extra cut of pie for dinner. When they wish to spend their money in some proportion to its volume they buy pictures of which they have never found time to learn the intellectual value, purchase jewels which must be locked in safe deposit vaults and can be displayed without vulgarity only once or twice in a decade, drive steam yachts or automobiles at reckless and purposeless speed, or give it away. The last named is the most popular American method of spending surplus incomes. It is a plain acknowledgement that the owner has more money than he knows how to use, and the obvious inference is that the time wasted in accumulating it could have been spent to better purpose, as far as himself is concerned.

The giving away of surplus wealth is but the modern interpretation of the feudal baron's generosity, who robbed as lavishly with one hand as he dispensed largess with the other. Peter has been robbed, not to pay Paul, but to dower him. The wealth has been taken from the many to give to the few; for every surplus dollar accumulated means that somebody has worked for a dollar less than he ought, in strict moral equity, to have received.

On the other hand, our strenuous pursuit of wealth makes us a nation of doers. We accomplish things. We are great in the eyes of the congregation of peoples. We are nevertheless dyspeptic, discontented, not too ethical where fine points of meum and tuum are involved, prone to the forms of nervous insanity, given to suicide, impatient divorceful. Would it not be worth much to turn our attention, at least during the vacation season, to subjects that lead to placidity and content of mind? Perhaps a summer spent in this way, now and again, would compensate for winters of aimless hustle and hurry after the coy, unnecessary surplus dollar.—Drugs, Dils and Paints.

Peanuts In Marseilles.

(From United States Consul General Skinner, Marseilles, France.)

Marseilles imported last year 182,010 tons of peanuts, of which 100,971 tons arrived already decorticated, mainly from India, and 80,049 tons came in the shell, principally from the west coast of Africa. These figures vary from year to year, according to crop conditions, the local market being prepared to absorb whatever the producing countries can supply. All of this material is taken up by the oil mills. At least one half of the total quantity imported is converted into the higher grades of comestible oil, competing on its own merits, with olive and cotton seed oils.

The shelled Indian nuts yield an inferior oil, much of which is manufactured into soap, while the African nuts furnish the edible grades in high repute. This is the general distinction between Indian and African nuts, although the product of both countries supplies a certain proportion of both edible and industrial grades. Today the Indian decorticated nuts are offered in Marseilles at $5.50 per ton, against $4.63 to $5.21 which the African nuts command in the husk. The difference is therefore very materially in favor of the African peanut.

On several occasions I have been consulted in regard to the possibility of securing American peanuts for this market, but thus far our crop has never been large enough to enable our exporters to share in the business in an important way, nor have the oil-yielding qualities of the sample shipments greatly encouraged efforts in this line. The American nut furnishes an oil that is not remarkable as to quality, compared with the quality extracted from the African kernels, as to have suggested the imperative necessity of cultivating a new variety if our farmers expect to engage in this business. Indeed, the American nut possesses not only those defects, but is furthermore triturated with especial difficulty and to the injury of the mats employed for this purpose.

The American peanuts are now consumed exclusively in natural form or by the confectionary trade. For these purposes they are perhaps the best in the world, although the Spanish variety is also highly thought of. Last year, owing to a short crop in the United States, peanuts to the declared value of $7,065 were sent to the United States from Marseilles. I followed these shipments and learned that, however excellent for oil making purposes, these re-exported African nuts were

much less desirable for eating than our own. Since that time I have been in correspondence with the Department of Agriculture upon my proposition to produce a new variety in America which will combine both the excellent flavor of the native and the oil-giving qualities of the African. If scientific cultivation can bring about the result hoped for, our southern farmers may not only be able to offer their product to Europe, where peanuts are desired for oil-making only, but they may also make possible a new oil-crushing industry in the United States only less important than the cotton seed industry of today. Should it be impossible to obtain a new variety that will satisfactorily meet all requirements, our planters must then either remain satisfied with such domestic business as they have at present, or grow two varieties, one for oil and one for roasting.

The best oil nuts handled in Marseilles are received from the provinces of Ruffisque, Sine and Cayor, in Senegal. Samples of these seeds have been sent to Washington for the service of the Department of Agriculture in connection with the suggestion referred to above. They could, of course, be obtained in commercial quantities for planting on a large scale if anybody wished to undertake private experiments.

In a report printed in the Daily Consular Reports, No. 1935, April 23, 1904, details were furnished in regard to the defects of the American peanut as an oil-producer. These defects have been already summarized and need not be repeated here. They are intresting to the oil manufacturing trade rather than to farmers and nut dealers.

In Marseilles peanut oil is preferred to cotton seed oil, other things being equal. It is today quoted at 70.8 francs per 100 kilos ($13.66 per 220 pounds) edible qualities, against 46 francs per 100 kilos ($8.88 per 220 pounds) for choice American white edible cotton seed oil. This marked difference in price is due to the exceptional shortage of peanut oil and does not represent normal conditions.

In Europe it has long been regarded as strange that so little has been done in the United States in the direction of manufacturing vegetable oils other than cotton seed. The demand for these oils throughout the world appears to be slowly by steadily increasing. It is unfortunately the case that practically the whole value of the peanut plant resides in the commercial value of the nut, and it remains to be demonstrated whether an acre planted with this seed will yield as generous a return as an acre planted with cotton, and giving a return both in fiber and in seed. Whatever the answer may be, it is probably true that peanuts may be cultivated over a much wider area than cotton.

A rendering tank exploded last month in the factory of the Green Bay (Wis.) soap factory.

Copra and Cocoanut Oil.

A dispatch from Mexico states that C. L. Painter, the representative of copra dealers of Manila, P. I., has arrived in the republic and is at present in the state of Vera Cruz investigating the possibilities of the copra industry in the Mexican republic. The demand for copra is so great that the Manila company is looking for new fields in which to exploit the industry. Mexico is believed to be an ideal place for the establishment of a branch, as there is a large territory in Mexico where the cocoanut tree grows. Little work is necessary to prepare copra for shipment.

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Samoa: The export of copra in 1904 was about 8,000 tons. This article, now selling in Apia at £11 15s. per ton, taken by the buyer from the coasters' ship's tackels, or £12 10s. to £12 15s. per ton delivered bagged on board ocean steamers, is entirely supplied by the Samoans. The large German firm Deutsche Handels und Plantagen Gesellschaft always ship on their own account the copra made on their own plantations, say 2,000 to 2,500 tons yearly. From other sources say 2,500 tons are shipped yearly to Sidney for sale there. When sold by the Apia merchant to outside buyers the terms are always either net cash or approved drafts on colonial banks at three days' sight. Some copra goes via Pago Pago to San Francisco. The price is stated to be at present 3¼c per lb., delivered at Pago Pago.

As regards cocoanut plantations, they offer many advantages not attendant on cacao growing. The trees here scarcely ever suffer from disease, and not one tree in a thousand is blown down by a hurricane, while however severe may have been the cyclone the trees are not affected by it for more than 21 months afterwards, and then yield a larger crop of cocoanuts than they did before the gale. They offer further advantages as regards the pasturing of cattle under them, which can be turned in amongst the trees as soon as they are of eight years' growth. On the other hand, as no return of nuts fit for copra making can be looked for from the trees before 15 years, and the cocoanut tree requires much more weeding and cleaning away of all other trees around it than the cacao tree, much sun being absolutely necessary to its growth, the cost of making a plantation of, say, 200 acres of cocoanuts (and no plantation of a smaller size would bring in even a moderate income), cannot be reckoned at less than £30 to £40 per acre.—British Consular Report.

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Philippines: The forthcoming census report upon the industries of the Philippine Islands will contain a monograph dealing with the subject of cocoanut oil and copra, in which an attempt is made to offset by a conservative statement of facts the rather highly colored reports that have been sent out from the islands, presumably by promotors, in which capitalists have been

invited to invest largely in the business of producing cocoanut oil on very flattering assurances that the enormous crop of copra produced in the islands can be more profitably turned into oil in the Archipelago than exported to foreign countries in the form of dried meats. following is an advance abstract of this interesting report:

Copra and Cocoanut Oil.—Until very recent years the demand for the "meat" of the cocoanut or its product was limited to the uses of soap boilers and confectioners. Within the past decade chemical science has produced from the cocoanut a series of food products whose manufacture has revolutionized this industry and placed the business of the manufacturer and of the producer upon a plane of prosperity never before enjoyed. The United States took the initiative with the first recorded commercial factories in 1895. In 1897 the Germans established factories in Mannheim, but it remained for the French to bring the industry to its present perfection.

The conversion of cocoanut oil into dietetic compounds was undertaken in that city in 1900 by Messrs. Rocca, Tassa & de Roux, who, in that year, turned out an average of 25 tons per month. During 1902 their average monthly output exceeded 6,000 tons, and, in addition to this, four or five other large factories were working together to meet the world's demand for "vegataline," "cocline" and other products with suggestive names belonging to this infant industry.

It was necessary to disguise the earlier products by subjecting them to trituration with milk or cream, but so perfect is the present emulsion that the plain and unadulterated fats now find a ready market as butter. These "butters" have so far found their readiest sale in the tropics.

The significance of these great discoveries to the cocoanut planter cannot be overestimated, for to none of these purely vegetable fats do the prejudices attach that so long and seriously have handicapped those derived from animal margarin in combination with stearic acid, while the low fusion point of purely dairy butters, necessarily prohibits their use in the tropics outside of points equipped with refrigerator plants. The field, therefore, is practically without competition and the question will no longer be that of finding a market, but of procuring annually the millions of tons of copra or oil that this one industry will absorbe in the immediate future.

Local Uses of the Oil.,Cocoanut oil was once used extensively in the manufacture of fine candles, and is still occasionally used for this purpose in the Philippines, in combination with the vegetable tallow of a species of stillinga. It is largely consumed in lamps, made of a tumbler or drinking glass half filled with water, on top of which float a few spoonfuls of oil, into which the wick is plunged. In remote barrios it is still in general use as a street illuminant, and so perfect is its combustion that under a constant flicker it emits little or no smoke.

When freshly expressed the oil is an exceptionally good cooking fat, and enters largely into the dietary of the people. The medicinal uses of the oil are various, and in the past it has been strongly advocated for the cure of eczema, burns as a vermifuge, and even as a substitute for codliver oil in phthisis. Its medicinal virtues are now generally discredited, except as a restorative agent in the loss of hair resulting from debilitating fevers. Its value in this direction may be surmised from the splendid heads of hair possessed by the Filipino women, who generally use the oil as a hair dressing.

Manufacture of the Oil.—Cocoanut oil is derived from the fleshy albumen or meat of the ripe fruit either fresh or dried. The thoroughly dried meat is variously known as copra coprax and copraz. The exportation of copra is detrimental to the best interests of the planter, tending to enrich the manufacturer and impoverish the grower. The practice however, is so firmly established that the writer can only record a probably futile protest against its continuance.

The causes which for a long time will favor the exportation of copra instead of oil in this archipelago may be briefly stated as follows:

(1) An oil milling plant, constructed with due regard to economy of labor and the production of the best quality of oil, would involve an outlay of capital of about $2,500 gold and upward, according to capacity. The production of copra requires the labor of the planter's hands only.

(2) The oil should be packed in well-made barrels or cans. The first cost of the packages is consequently great, their return from distant ports impracticable, and their sale value in the market of delivery not sufficient to offset the capital thus locked up in an unproductive form. On the other hand, copra may be sold or shipped in boxes, sacks or bales, or it may even be stored in bulk in the ship's hold.

(3) When land transportation has to be considered, the lack of good roads still further impedes the oilmaker. He cannot change the size and weight of his packages from day to day to meet the passability of the trail. On the other hand, packages of copra may be adjusted to meet all emergencies, and the planter can thus take advantage of the market conditions which may be denied to the oilmaker.

(4) The last and most serious difficulty that the oilmaker encounters is the lack of a market for the press cake that results as a by-product of the manufacture of oil. Its great value as a food for cattle or swine and its secondary value as a manure are unknown in this country, and the product is practically neglected. This fact is promptly taken advantage of by the buying agents of foreign manufacturers who can

afford to bid in the open market up to the full oil contents value of the copra, knowing that the residue will pay all transportation charges and an ample manufacturer's profit as well. So active are copra buyers in controlling this important branch of the industry that they refuse to buy the press cake at any price, and in some instances they have thereby effected the closure of oil milling.

The process of copra making employed in the Philippines consists in first stripping the ripe fruit of the outer fibrous husk. This is effected by means of a stout, sharp spearhead, whose shaft of shank is embedded firmly in the soil to such a depth that the spear point projects above the ground rather less than waist high. The operator then holds the nut in his hands and strikes it upon the spear point, gives it a downward rotary twist, and thus, with apparent ease quickly removes the husk. An average operator will husk 1,000 nuts per day, and records have been made of as many as 3,000 per day. The work, however, is exceedingly hard and involves great dexterity and wrist strength.

Another man now takes up the nut and strikes it a smart blow in the middle with a bolo, dividing it into two almost equal parts. These parts are spread out and exposed to the sun for a few hours or such time as may be necessary to cause the fleshy albumen to contract and shrink away from the hard outer shell, so that the meat may be easily detached with the fingers.

Weather permitting, the meat thus secured is sun dried for a day and then subjected to the heat of a slow fire for several hours. In some countries this drying is now effected by hot air driers, and a very white and valuable product secured; but in the Philippines the universal practice is to spread out the copra upon what may be called a bamboo grill, over a smoky fire made of the shells and husks, just sufficient heat being maintained not to set fire to the bamboo. The halves when dried are broken by hand into smaller irregular fragments and subjected to one or two days of sun bath. By this time the moisture has been so thoroughly expelled that the copra is now ready to be stacked or baled and stored away for shipment or use.

All modern cocoanut oil mills are supplied with a decorticator armed with revolving disks that tear or cut through the husk longitudinally, freeing the nut from its outer covering and leaving the latter in the best possible condition for the subsequent extraction of its fiber. This decorticator is fed from a hopper and is made of a size and capacity to husk from 500 to 1,000 nuts per hour.

Rasping and grinding machinery of many patterns and makers, for reducing the meat to pulp, is used in India, Ceylon and Indo-China; and, although far more expeditious, offers no improvement, so far as concerns the condition into which the meats are reduced, over the methods followed in the Philippines. Here the fleshy halves of the meat are held by hand against a rapidly revolving blade, which scrapes and shaves the flesh down to a fine degree of comminution. The resulting mass is then macerated in a little hand press, and the milky juice which flows therefrom is collected in receivers placed below. This is now drawn off into boilers and cooked until the clear oil is concentrated upon the surface. The oil is then skimmed off and is ready for the market.

The process outlined above is very wasteful. The processes in operation are very inadequate, and it is estimated that not less than 10 per cent. of the oil remains in the press cake. This does not occur when the best hydraulic presses are used. It is true that very heavy pressure carries through much coloring matter not withdrawn by the primitive native mill, and that the oil is consequently darker and sooner undergoes decomposition; but modern mills are now supplied with filtration plants, through which this objection is practically overcome.

These operations in miniature are daily reproduced in thousands of Filipino homes, where the hand rasping of the nut, the expression of the milky juice through coarse cloth, its subsequent boiling down in an open pan, and the final skimming off of the oil are in common practice. Notwithstanding the cheapness of labor, it is only by employing a mill well equipped with decorticating, rasping, hydraulic crushing and steam-boiling machinery and with facilities to convert the residue to feeding or other uses, that one may hope to fully enter the field of oil manufacture in these islands in competition with copra buyers.—Oil Paint and Drug Reporter.

The Castor Oil Industry.

Castor oil is now extensively used in countries which manufacture large quantities of calicoes and colored cotton goods. The United Kingdom is the largest European consumer, and of the other principal consuming countries the United States ranks easily among the first. As compared with the enormously increased consumption of other fixed or expressed oils, the user of castor oil in the United States is on a small scale; the annual consumption is measured by hundreds of thousands in gallons, where that of either cotton seed oil or linseed oil amounts to tens of millions. However, the functions that castor oil performs in industry and in the arts are of great economic importance, as becomes apparent from a consideration from the varied uses to which its peculiar properties adapt it.

USED IN DYEING COTTON GOODS.

Within comparative recent years, that is, since aniline dyes have almost completely supplanted the mineral and vegetable dyes formerly used in coloring cotton textiles,

an extensive demand for castor oil has sprung up in the industry of dyeing and printing cotton goods. Without presuming to invade the intricacies of the dyer's art wherein secret receipes for the compositions of colors and their application to cloth are theproperty of each individual dyer, it may be said that the general principle underlying the utility of this oil in coloring processes is that the aniline and alizarine dyes are soluble in sulphurated castor oil; in other neutral fats and oils these dyes, with few exceptions, are in general insoluble. In certain processes of dyeing and printing, therefore, castor oil enjoys a practical monopoly over all other oils.

USED FOR MEDICINAL PURPOSES.

Probably the next most important channel of consumption is the drug trade. In earlier days castor oil was best known as a medicine. The once universal disposition to regard it as a "sovereign remedy" is still among the early remembrances of living men. Not only was the customary maternal diagnosis of each childish ailment prone to result in a repulsive dose of castor oil, but even among hardy adults, occasional self-prescribed doses of this so-called panacea were deemed necessary to the continuance of perfect health. Thus, two factors contributed to its consumption—its positive value as a medicine and its apparently harmless effect upon good health. In addition to its common use as a purgative, rheumatism, lumbago, skin affections, cramps, colds and a host of other ills were popularly believed to yield to its curative properties; in fact, medicinal use was a a highly important element in the castor oil trade. Naturally, the marvelous advance that has been made in medical science in recent years, has resulted in the wide-spread substitution for this once popular cure-all, of less nauseating, if not more efficacious drugs. As a general rule, physicians less frequently prescribe it. Modern preparations in capsules and compounds, has, it is true, had a decided tendencey everywhere to perpetuate its traditional uses as a self-prescribed remedy. In some rural communities, too, especially among the colored people of the South, its medicinal virtues still retain much of their old-time popularity, and in some pharmaceutical compounds it is still a staple. In short, considerable quantities of the high grade of castor oil are still absorbed by the drug trade, although its value as a medicine has, on the whole, somewhat declined in public esteem, and there no longer exists for it so universal a demand as a "home remedy."

(To be continued.)

The soap making plant of the Howell & Mullay Soap Co., at Kansas City, Kan., has been all but destroyed by fire.

PATENTS AND TRADE-MARKS.

The following list of recent Patents and Trade-Marks is reported by W. G. HENDERSON, Solicitor of American and Foreign Patents and Trade-Marks, Norris Bldg,, Washington, D. C. A copy of any of the following will be furnished by him for 15 cents.

TRADE-MARK REGISTRATIONS.

44,379. Soap. The N. K.Fairbank Co., Chicago,, Ill. The words "Garden City."

44,380. Soap. The N. K. Fairbank Co., Chicago, Ill. The word "Damask."

44,381. Soap. The N. K. Fairbank Co., Chicago, Ill. The words "Superior Artisan."

44,382. Soap. The N. K. Fairbank Co., Chicago, Ill. The word "Juanita."

44,383. Soap. The N. K. Fairbank Co., Chicago, Ill. The words "Golden West."

44,384. Soap. The N. K. Fairbank Co., Chicago, Ill. The words "Blue Jay."

44,385. Soap. The N. K. Fairbank Co., Chicago, Ill. The words "Big Gun."

44,386. Soap. The N. K. Fairbank Co., Chicago, Ill.

44,387. Title. The N K. Fairbank Co., Chicago, Ill. The word "Cork."

44,388. Soap. The N. K. Fairbank Co., Chicago, Ill. The word "Albion."

44,389. Soap. The N. K. Fairbank Co., Chicago, Ill. The word "Jaconet."

44,390. Soap. The N. K. Fairbank Co., Chicago, Ill. The word "Alhambra."

44,391. Soap. The N. K. Fairbank Co., Chicago, Ill. The word "Brilliant."

44,509 Soap. William Waltke & Co., St. Louis, Mo. The word "Lava."

44,60. Perfumed preparations in powdered, paste, solid, and liquid forms. Batcheller Importing Co., New York, N. Y.

44,640. Toilet Soaps. Benjamin Levy, Boston, Mass. Concentric rectangular figures with the words and abbreviations "Ben Levy, Parfumeur, Boston, Mass.," occupying the center thereof, the outer rectangular figure or border being dentated and provided with a square within each corner. A star is on each square, and a fine wavy line is also in the border.

44,641. Laundry Soap. J. G. Haas Soap Co., St. Louis, Mo. The word "(Ovalette."

44,691. Toilet and laundry soap and soap powders. Chauncey F. York, Warriorsmark, Pa. The hyphenated word "Ma-Le-Na."

44,821. Toilet Soap. Muhlens & Kropff, New York. N. Y. The words "Riviera Castile."

44,822. Toilet Soap. Muhlens & Kropff, New York, N. Y. A picture of the Cologne cathedral in connection with the words "La Cathedrale."

TRADE-MARKS.

The following trade marks have been found to be allowable and will be registered if no opposition is entered against them within thirty days after their publication:

Ser. No. 185. Bar soap. Schaeffer Bros. & Powell Manufacturing Co., St. Louis, Mo. The words "Mottled St. Louis."

Ser. No. 186. Bar soap. Schaeffer Bros. & Powell Manufacturing Co., St. Louis, Mo. The word "Boss."

Ser. No. 1,251. Perfumes and toilet water. Mulhens & Kropff, New York, N. Y. The word "Marquise."

Ser. No. 1,244. Toilet soap. Muhlens & Kropff, New York, N. Y. The word "Marquise."

Ser. No. 1,252. Perfumery. Mulhens & Kropff, New York, N. Y. The word "Rhine."

Ser. No. 2,077. Toilet and laundry soap. The Beaver Soap Co., Dayton, Ohio. The words "Grandma's Soap," associated with the picture of an old lady with spectacles holding a paper in her hand, having the words "Beaver & Co., Grandma's Soap, Dayton, Ohio," in reverse letters.

Ser. No. 2,591. Scouring and toilet soap. East River Company, Brooklyn, N. Y. The word "Silexo."

Ser. No. 3,104. Toilet Soap. The William Soap Company, Indianapolis, Ind. The word "Pumola," arranged upon a contrasting background.

Ser. No. 4,744. Toilet soap. The Cincinnati Soap Company, Cincinnati, Ohio. The word "Renaissance."

Ser. No. 1,243. Toilet Soap. Mulhens & Kropff, New York, N. Y. The words "La Parisienne."

Ser. No. 1,245. Toilet Soap. Muhlens & Kropff, New York, N. Y. The word "Infanta."

Ser. No. 1,886. Cologne. Freeman B. Sheld, Lowell, Mass. The words "Hoyt's German."

Ser. No. 2,517. Face and Skin Cream. The Herpicide Co, Detroit, Mich. The representation of a mermaid having a shell as a background resting upon the surface of the water and the words "Gallogly's Seaweed Cream" within the shell.

Ser. No. 3,726. Toilet Soap National Toilet Co., Paris, Tenn. The words "Nadine Flesh."

Ser. No. 4,215. Laundry soap. Allen Conkling, South Chicago, Ill. The words "Red Robin" and the representation of a bird sitting on a detached branch of a tree, the said branch bearing leaves and cherries.

Ser. No. 4,230. Laundry soap. J. G. Haas Soap Co., St. Louis, Mo. The word "Cascade."

Ser. No. 1,120. Perfumery. F. Hoys & Company, Limited, Philadelphia, Pa. The facsimile signature of F. Hoyt & Co., and the representation of a circular border inclosing said signature, an angular-shaped figure extending from said border, and quadrilateral-shaped figures, latter being inclosed one within the other and within the limbs of the angular-shaped figure.

Ser. No. 2,078. Toilet and laundry soaps. The Beaver Soap Co., Dayton, Ohio. The words Grandpa's Wonder Soap," together with a bust picture of an old man with spectacles raised upon his forehead. The word "Grandpa's" appears upon a scroll above the picture and the words "Wonder Soap" appear below the picture, the word "Soap" appearing in white letters upon a black background.

Ser. No. 2,079. Toilet and laundry soaps. The Beaver Soap Co., Dayton, Ohio. The words "Grandpa's Wonder Soap" and the bust picture of a man smiling, wearing spectacles, and shown with whiskers below the chin extending up each side of the face.

Ser. No. 5,733. Perfumery. The Schaefer-Martin Co., Chicago, Ill. The words "Fuma Bath."

Ser. No. 7,863. Perfumery. Frederick Stearns & Co., Detroit, Mich. The word "Czarina."

AROUND THE SOAP FACTORIES.

News-items sent us by our readers will find prompt attention in this column

The N. K. Fairbank Co. of Chicago have secured a former school site on the corner of Wentworth Avenue and Twentieth Street, 200x124, adjoining its factory, and will erect on it a modern building, four stories, for refining purposes and office uses.

Mr. Ernesto Lorda having resigned as a director of the Compania Jabonera "Union" of Mazatlan, Mexico, Mr. Jose Villasenor has been appointed in his stead.

The Naval Stores Export Association, a combine of independent turpentine distillers in Mississippi, Louisiana and Alabama, recently organized with a capital

stock of $500,000, for the purpose of competing with the Turpentine Trust. A large reservoir tank at Gulport will be used for tanking spirits of turpentine from the distilleries of Mississippi and which will be exported. The headquarters of the new assocation will be located at Hattiesburg.

Incorporated: The Schrubb & Co., Ltd., at New York, to make soap, candles and perfumes; capital $150,000. Directors: A. Gross, A. W. Godfrey, W. Houghton.

The interests of James Desmond in the soap manufacturing business conducted by Desmond & Ryan of Cincinnati, have been acquired by the Ryan family, who have now organized anew as the Ryan Soap Co., with a capital of $100,000. The incorporators are: Michael, Matthew, Richard and Joseph Ryan and Chas. J. Rentz.

The Vose Manufacturing Co. is the style of a new soap manufacturing firm in Gardner, Mass. It is reported as being capitalized at $100,000, of which $150 is to be in cash and the remainder in formulæ. The officers are: W. F. Thomas, president; A. S. Vose, vice-president and treasurer; James H. Hall, clerk. It is understood that Mr. Thomas is the manager of a theatrical troupe in which Mr. Vose's daughter was the leading lady. Mr. Vose is the owner of the $99,500 formulæ. "The dimensions of the proposed manufacturing plant, as one local paper has it, will depend largely on the amount of stock sold."

Mr. Geo. A. Schmidt, Jr., of Chicago, was married in the latter part of June and went with his bride on a trip to Colorado, Arizona, California, Oregon and Utah. We have not heard from them since their first stop in Colorado, but our very best wishes accompany them wherever they may travel. The young couple may not be able to "compel" happiness, but they certainly do more, they "deserve it."

The Lewis and Clark Fair contains an exhibit of soap made at Rainier from "natural deposits," and the story of how the soap was discovered is an unusual one. On June 14, 1903, a cloudburst struck the town of Heppner, and 300 lives were lost, besides a large number of animals. In the intense heat that followed the storm it was evident that stringent measures must be adopted if a pestilence was to be avoided, and the State Board of Health ordered that a mineral found near the town be spread over the ruins, as it was thought that this mineral was a valuable disinfectant. The use of the mineral, which now composes the chief substance used in the manufacture of the mineral soap, saved the lives of hundreds who probably would have perished if the dead bodies had been permitted to decompose in the open air. The mineral soap is being manufactured in large quantities and is proving popular.

Washington, July 10.—George E. Lorenz, head of the George Lorenz Perfumery Co., Toledo, O., who was convicted with August W. Matchen and others of defrauding the government through the sale of postal supplies ,and who subsequently turned state's evidence, has finally been sent to prison. He will have to serve two years in the penitentiary at Moundsville.

Pearse Oil Company, of New York City, has been incorporated to deal in oils and manufacture soaps. The capital is $35,000, and the directors, Henry T. Upson and H. W. Cleveland, of Buffalo, and Norton L. Upson, of Parkersburg, W. Va.

Toledo, Ohio, July 22.—The National Soap and Chemical Company of Toledo, capital $15,000, was incorporated to-day by S. J. Braun, W. W. Wolfe, C. H. Lee, R. W. Wallace and J. E. Alvord. This is a reorganization of the National Chemical Company, nearly all the stock of which is owned by S. J. Braun, who inaugurated the business. The company's plant is located close to the Lake Shore tracks, near Dorr Street, and has been in existence about seven years. The concern manufactures the Prosperity Washing Powder.

The Gibson Soap Co. of Omaha, Neb., has filed articles of incorporation. Capital stock $200,000. President, J. J. Gibson; vice-president, A. B. Gibson; secretary, D. Richards. The company has been in the soap business for some time.

Marx & Rawolle, of New York, have incorporated; capital $1,000,000. Objects: The manufacture of glycerine, soap, varnish, etc. Incorporators: C. J. Buchanan, Isaacetta Rawolle, Geo. F. Henry, Henry Colder, Afred W. Varian.

Albert M. Hoover's soap factory at Freeport, Ill., was discovered to be burning on July 6th, in the night, and owing to difficulty in reaching it effectively, the fire department could not do more than save the neighboring residence of Mr. Hoover and other near-by buildings. The loss is about $5,000, only half covered by insurance.

Additions to Our Brand List.

356—H. E. Wofford Co., Baltimore, Md.
357—Fox River Soap Co., Green Bay, Wis.
358—Lever Bros. Co., Cambridge, Mass.
359—Lever Bros. Ltd., Port Sunlight, England.
360—Royal Soap Co., Goshen, Ind.
361—Standard Soap Co., Calgary, Canada.

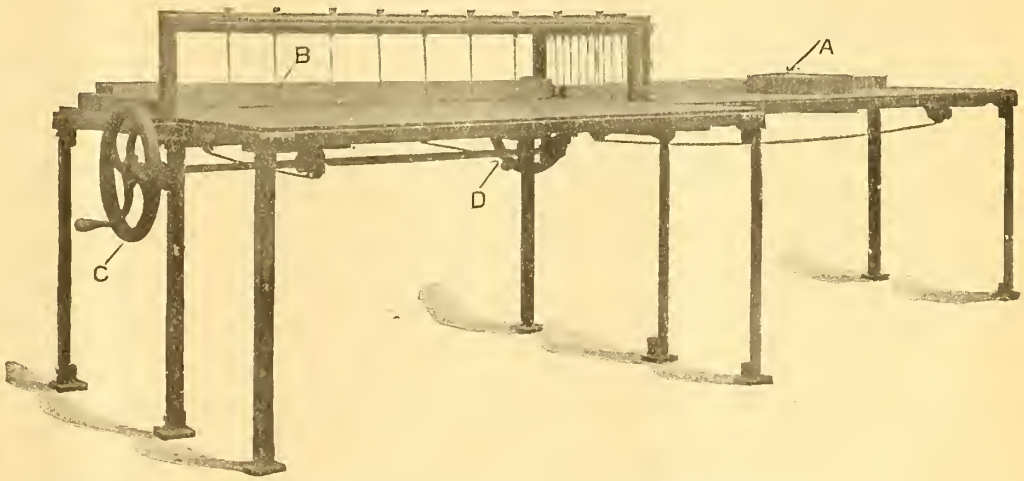
Ammo Wash. P.—F. L. Fraser, Detroit, Mich.
Aseptine—J. A. Simonds, New York, N. Y.
Big Cape, Cape City S. Works., Cape Girardeau, Mo.
Ceral—Gustave Lohse, Berlin, Germany.
Dolly Varden — A. W. Wilwid & Co., Newark, N. J.
Fawn—Cumberland (Md. Soap Co.
Lustro—F. L. Hunt, Cincinnati, Ohio.
Merry War, Cape City S. Wks., Cape Girardeau, Mo.
Oleo—Germ. Amer. Soap Wks., New Orleans.
Power Soap — F. Martin, Columbus, Ohio.
Radium—Natl. S. Corporation, Boston.
Strajuso—Frazer Soap Co., Chicago, Ill.
Strawberry Juice Transparent Glycerine S. No. 202 — Frazer Soap Co., Chicago, Ill.
Volcano—F. L. Hunt, Cincinnati, Ohio.

Angelo Olive 54
Aroma de Clavel 54
Ascage Carbol 4
Ascage Carpet 4
Ascage Floating Bath 4
Ascage For The Bath 4
Ascage For The Teeth 4
Ascage For Shaving 4
Ascage Massage Cream 4
Ascage Shaving Cream 4
Ascage Sulphur 4
Ascage Tar 4
Atlantic Turkish Bath 16
Auto-Ascage 4
Barbers' Bar 4
Barbers' Cream Shaving 4
Beauty Pura 4
Bell's Benzene 343
Big Cannon 357
Boro Myrr 54
Bright Home 356
Bristo (for Canada) 361
Burnight 4
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Cocoa Cura Almond 4
Cocoabutter Shaving 4
Cocoabutter Toilet 4
Cucumber 4
Cupid Rose 16
Cu-Te-Na 351
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Delicia 16
Delicia Pink Carnation 16
Disinfectant 4
Dog 4
Don't Worry 74
Eagle 16
Egg Shampoo 4
Elgin Milk and Rose 4
"Elite For The Complexion" 4
El Merito 16
Figaro 16
Floating Panel Bath 4
Floating Panel Ascage 4
Four Leaf Clover 54
Gasene 106
Glyco Tar 54
Golden Dawn 357
Golden Dragon 54
Golden Star 357
Golden West (for Canada) 361
Gold Medal 106
Granular Ascage 4
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Hoefner's Ammonia S. 55
Hold Fast Shaving 16
Homstead (for Canada) 361
India Cocoa 16
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It 4
Jiffy 360
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Kloudike Tar 16
Kokoabutter Shaving 4
Kokoabutter Toilet 4
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Witch Hazel Cream Shaving 4
Wise Shaver 4
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Yellow Star 357
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Yule Tide Bouquet 16

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SUPPLEMENTARY LIST
OF THE
BRANDS OF SOAP MANUFACTURED IN THE UNITED STATES
Including also the Brands of Foreign Manufacture Registered as Trade-Marks in this Country.

NOTE: This list is compiled with the greatest possible care, but the publisher does not assume any responsibility other than to correct and to complete the list according to data obtained from official sources or furnished by the trade. Brands registered in the patent office as trade-marks or labels are given with the name of the party registering same. Brands or names marked * are those which were found to be used by more than one firm or the owner of which could not be ascertained. ☞ SEE THAT ALL YOUR BRANDS ARE ENTERED IN YOUR NAME.

3 Liberty Mfg. Co., Chicago.
113 Puck Manufacturing Co., Des Moines, Iowa.
344 Home Soap Co., N.Y.
345 Columbia Ref'g & M'f'g Co. Ltd, New Orleans.
346 Beaumont Soap Co, Mayfield, Ky
347 Lockwood Soap Co., Kansas City, Mo.
348 Oklahoma Soap & Oil Co., Oklahoma City.
349 M. F. Windsor Soap Co, East Buffalo, N. Y.
350 Florida Cotton Oil Co., Jacksonville, Fla.
351 Brown Soap Co., Dayton, Ohio.
353 Southern Soap Co., Birmingham, Ala.
354 Zion City Soap Factory, Zion City, Ill.
355 *Palami Co., Boston, Mass.

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Ceske Pelski 3
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Crystal Sulphur 3
Crystal Palace 3
Crystal Transparent Tar 3
" " Carbolic 3
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Cuta Alba 3
Cultoderma Medicated 3
Cycle 3.

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Der-Foda 3
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Diadem 3
Dollie (Filtered) Blue 342
Druggist's Transparent 3
Dr. Allens Medicated 3
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Dylissia—Vin lia Co., Ltd., London, England.

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Empire Geranium 337
Eucryl Eucryl Ltd., Hull, England.
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Expert 286

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" Scouring 2
" German Fam. 2
" Glycerine-Tar 2
" Mottled Germ'n
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Le Fameux Peau d'Espagne 16
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